

28 JUNE 1988



**FOREIGN
BROADCAST
INFORMATION
SERVICE**

JPRS Report

Science & Technology

USSR: Life Sciences

TABLE OF CONTENTS

JPRS-UBB-87-001, 20 JANUARY 1987 -

JPRS-UBB-87-012, 29 MAY 1987

JPRS-UBB-87-001

20 JANUARY 1987

USSR REPORT
LIFE SCIENCES
BIOMEDICAL AND BEHAVIORAL SCIENCES

CONTENTS

AGROTECHNOLOGY

Briefs	
Chlorella Control of Cotton Fungus	1
Entomopathogens Cephalosporium CDA Fungi on Insect Pests in Irkutsk Oblast (B. N. Ogarkov, G. R. Ogarkova; MIKOLOGIYA I FITOPATOLOGIYA, No 6, Nov-Dec 85).....	2
Introduction of Nitrogen-Fixing Cyanobacterium to Tobacco Plants (L. V. Pivovarova, T. G. Korzhenevskaya, et al.; IZVESTIYA AKADEMII NAUK SSSR: SERIYA BIOLOGICHESKAYA, No 5, Sep-Oct 85).....	2
Use of Harrington Desirability Function in Assessment of Crop States (K. Ya. Kondratyev, S. M. Somova; DOKLADY AKADEMII NAUK SSSR, No 4, Apr 86).....	3

BIOCHEMISTRY

Kinetics of Immunological Agglutination Reaction and Rapid Determination of Bacteria Using Automated Laser Photon- Correlation Spectrometer (I. G. Yersh, L. S. Muratov, et al.; DOKLADY AKADEMII NAUK SSSR, No 5, Apr 86).....	4
---	---

Different Locations of Active Sites of Cytochromes P-450 and P-448 in Rat Liver Microsome Membranes (M. V. Izotov, V. M. Shcherbakov, et al.; DOKLADY AKADEMII NAUK SSSR, No 5, Apr 86).....	5
Human Na^+, K^+ -ATP-ase Genes, Nucleotide Sequence Coding for C-Terminal Region of α -Subunit (Yu. A. Ovchinnikov, G. S. Monastyrskaya, et al.; DOKLADY AKADEMII NAUK SSSR, No 5, Apr 86).....	5
Composition and Biological Properties of a Preparation From Cell Walls of Lactobacillus Bulgaricus LB-51 (O. V. Galkina, N. V. Kashperova, et al.; BIOTEKHNOLOGIYA, No 1, Jan-Feb 86).....	6
Chemical-Enzymatic Synthesis and Cloning of Human Biologically Active β -Interferon Gene (V. P. Kumarev, M. I. Rivkin, et al.; DOKLADY AKADEMII NAUK SSSR, No 1, Sep 86).....	6
Experimental Model and Possible Molecular Mechanism of Induced Deletion Mutagenesis (V. A. Petrenko, S. I. Tatkov, et al.; DOKLADY AKADEMII NAUK SSSR, No 1, Sep 86).....	7
Restricting Endonucleases From Shigella Sonnei 47 (T. M. Uporova, I. M. Kartashova, et al.; VOPROSY MEDITSINSKOY KHIMII, No 2, Mar-Apr 85).....	8
Nucleotide Sequence of cDNA and Primary Structure of Beta- Subunit of Swine Kidney Na^+, K^+ -ATPase (Yu. A. Ovchinnikov, N. Ye. Broude, et al.; DOKLADY AKADEMII NAUK SSSR, No 6, Apr 86).....	8
Cyclic GMP-Phosphodiesterase of Bovine Retina: Amino Acid Sequence of Gamma-Subunit (Yu. A. Ovchinnikov, Kh. G. Muradov, et al.; DOKLADY AKADEMII NAUK SSSR, No 6, Apr 86).....	9
Participation of Active Forms of Oxygen in Ferulic Acid Toxicity Mechanism (A. A. Averyanov, V. P. Lapikova; IZVESTIYA AKADEMII NAUK SSSR: SERIYA BIOLOGICHESKAYA, No 4, Jul-Aug 85).....	9
Enzymatic and Structural Mechanisms of DNA Repair in Isolated Mammalian Chromatin (V. M. Krutyakov, N. V. Belyakova, et al.; IZVESTIYA AKADEMII NAUK SSSR: SERIYA BIOLOGICHESKAYA, No 4, Jul-Aug 85).....	10

Effects of Substances Altering Intracellular Levels of cAMP
on Oxidative Metabolism Enzymes of Xenobiotics
(M. I. Bushma, P. I. Lukiyenko, et al.; FARMAKOLOGIYA
I TOKSIKOLOGIYA, No 2, Mar-Apr 86)..... 11

Cyclo-HMP-Phosphodiesterase From Cattle Retina. Nucleotide
Sequence of cDNA γ Subunit
(Yu. A. Ovchinnikov, V. V. Gubanov, et al.; DOKLADY
AKADEMII NAUK SSSR, No 6, Jun 86)..... 11

Enzyme Stabilization by Means of Chemical Modification With
Cyclic Anhydrides of Aromatic Acids
(V. A. Shikshnis, N. Z. Galkantayte, et al.; DOKLADY
AKADEMII NAUK SSSR; No 6, Jun 86)..... 12

BIOPHYSICS

Molecular Pumps Based on Macro cyclic Complexes
(A. A. Varnek, P. D. Brezhestovskiy; DOKLADY AKADEMII
NAUK SSSR, No 6, Aug 86)..... 13

Effects of Selenomethionine on Proton Magnetic Relaxation in
Hepatic Tissue of X-Irradiated Animals
(V. S. Kovach; DOKLADY AKADEMII NAUK SSSR, No 6, Apr 86).... 14

BIOTECHNOLOGY

Isolation Method for Highly Purified Restrictase Xba I
(V. F. Maystrenko, A. V. Selina, et al.; BIOTEKHNOLOGIYA,
No 1, Jan-Feb 86)..... 15

Chromatographic Purification of Influenza A Virus Protein
(I. M. Savich, V. V. Shaprov, et al.; BIOTEKHNOLOGIYA,
No 1, Jan-Feb 86)..... 15

Kinetics and Methane Formation Mechanism Based on
Methanogenic Association of Microorganisms. Part 1:
Dynamics of Methanol Conversion
(S. V. Kalyuzhnyy, S. D. Varfolomeyev; BIOTEKHNOLOGIYA,
No 1, Jan-Feb 86)..... 16

Microbiological Control of *Pseudomonas Thermophila* K-2 During
Continuous Cultivation
(V. V. Kotelev, N. N. Karlina; BIOTEKHNOLOGIYA, No 1,
Jan-Feb 86)..... 17

Determination of Localization and Isolation of Colloidal-Gold-
Binding Factor From Microbial Cells
(Z. R. Ulberg, V. I. Karamushka, et al.; BIOTEKHNOLOGIYA,
No 1, Jan-Feb 86)..... 17

Use of Liposomes in Transformation of Streptomyces Griseus Protoplasts (A. S. Stenko, B. P. Matselyukh, et al.; DOKLADY AKADEMII NAUK SSSR, No 6, Jun 86).....	18
Influence of Liposomes on Genetic Transformation of Intact Escherichia Coli Cells (V. A. Chernyavskiy, Yu. P. Zerov; BIOTEKHOLOGIYA, No 2, Mar-Apr 86).....	18
Transfection of Escherichia Coli Spheroplasts With Phage DNA Encapsulated in Liposomes (V. A. Chernyavskiy, M. A. Korzhenevskaya, et al.; BIOTEKHOLOGIYA, No 2, Mar-Apr 86).....	19
Method of Producing Highly Purified Plasmid pBR 322 (L. Ya. Denisova, Ye. V. Kileva, et al.; BIOTEKHOLOGIYA, No 2, Mar-Apr 86).....	19
Estimate of Flocculating Capability of Chitosanes Isolated From Various Sources of Chitin (A. Ya. Teslenko, N. I. Kuptsova, et al.; BIOTEKHOLOGIYA, No 2, Mar-Apr 86).....	20
Optimizing Selection of Types and Volumes of Enzymes Considering Multiple Effectiveness Criteria (V. N. Danilov, B. G. Litvak; BIOTEKHOLOGIYA, No 2, Mar-Apr 86).....	21

EPIDEMIOLOGY

Composition of European Population of Wheat Brown Rust Pathogen in 1982/1983 (T. V. Pavlova, V. A. Zinovskiy, et al.; MIKOLOGIYA I FITOPATOLOGIYA, No 6, Nov-Dec 85).....	22
Character of Penetration of Aral Region Non-Synanthropic Mammals Into Human Abodes (L. A. Burdelov, I. Zh. Zhubanazarov, et al.; EKOLOGIYA, No 6, Nov-Dec 85).....	22

GENETICS

Ability of Interferons (Leucocytic and Recombinant α_2) To Protect DNA and To Stimulate Repair Processes in Human Cells (I. M. Vasilyeva, T. A. Sinelshchikova, et al.; DOKLADY AKADEMII NAUK SSSR, No 4, Apr 86).....	24
Genetic Engineering Studies of Genomic Viral RNA Using Addressed Cleavage Followed by Ligation of RNA Molecule (N. P. Rodionova, L. G. Tyulkina, et al.; DOKLADY AKADEMII NAUK SSSR, No 4, Apr 86).....	24

Mapping of Bacteriophage λ CRO-Repressor Interactions
With Nonspecific DNA by DNA-Protein Chemical Crosslinking
(K. K. Ebralidze, S. K. Volkov, et al.; DOKLADY
AKADEMII NAUK SSSR, No 4, Apr 86)..... 25

Double Recombinant Pox Vaccine Virus Expressing Surface
Antigen of B Hepatitis Virus and Thymidinekinase of Herpes
Simplex Virus
(A. D. Altshteyn, O. G. Andzhabaridze, et al.; DOKLADY
AKADEMII NAUK SSSR, No 6, Aug 86)..... 26

Effect of Frost Resistant Soft Wheat D-Genome Chromosomes on
Mitochondrial Activity During Hypothermia
(V. K. Voynikov, N. N. Varakina, et al.; DOKLADY
AKADEMII NAUK SSSR, No 6, Jun 86)..... 26

Overcoming Negative Incompatibility in Pyricularia Oryzae Cav.
by Fusion of Mycelial Protoplasts
(N. S. Zhemchuzhina, G. D. Kazakevich, et al.;
MIKOLOGIYA I FITOPATOLOGIYA, No 6, Nov-Dec 85)..... 27

Barley Resistance to Infectious Diseases Pathogens in
Relationship to Plant Breeding
(P. F. Garkavyy, Ye. K. Kirdoglo, et al.; MIKOLOGIYA I
FITOPATOLOGIYA, No 6, Nov-Dec 85)..... 28

IMMUNOLOGY

Influence of Gangliosides on Activation of Human T-Suppressors
(E. V. Dyatlovitskaya, V. S. Suskova, et al.; DOKLADY
AKADEMII NAUK SSSR, No 6, Jun 86)..... 29

Evaluation of Sorption Properties of Microtitration Vials Used
in Solid Phase Immunoenzymatic Analysis Based on Immunoglobulin
G Model of Normal Human Serum
(V. S. Bogdanova, I. V. Vikha, et al.; BIOTEKHNOLOGIYA,
No 1, Jan-Feb 86)..... 30

MEDICINE

New Artificial Heart Model
(TASS, 15 Oct 86)..... 31

Introduction of Drugs in Form of Aerosols Directly to Pancreas
(Yu. A. Glivenko, K. D. Toskin, et al.; FARMAKOLOGIYA I
TOKSIKOLOGIYA, No 2, Mar-Apr 86)..... 32

Surgical Treatment of Heart Disease
(L. Klyukin; TRUD, 11 Sep 86)..... 32

Research in Treatment of Liver, Gall Bladder Disease
(N. Amosov; PRAVDA UKRAINY, 13 Sep 86)..... 33

Angiographic Studies of Sequelae of Fragmentary Wounds of Eye
(R. A. Gundorova, A. A. Malayev, et al.; VESTNIK
OFTALMOLOGII, No 1, Jan-Feb 86)..... 33

Biochemical Characteristics of Substances Adsorbed on SKN-2M
Activated Carbon During Hemosorption in Normal State and
After Burn Trauma
(V. Ye. Ryabinin, A. Ya. Lazovskaya, et al.; VOPROSY
MEDITSINSKOY KHIMII, No 2, Mar-Apr 85)..... 34

MICROBIOLOGY

Blue-Green Algae of Upper Racha
(L. K. Kukhaleyshvili; SOOBSHCHENIYA AKADEMII NAUK
GRUZINSKOY SSR, No 3, Jun 86)..... 35

Excretion of Photosensitive Antibacterial Substances by
Westella Botryoides Algae
(O. A. Sidorova, I. V. Maksimova; IZVESTIYA AKADEMII
NAUK SSSR: SERIYA BIOLOGICHESKAYA, No 4, Jul-Aug 85)..... 39

Rust Fungi in Far East
(I. A. Dudka, Yu. Ya. Tikhonenko; MIKOLOGIYA I
FITOPATOLOGIYA, No 6, Nov-Dec 85)..... 39

Extremely Thermophilic Bacteria Living at Temperatures Over 100°C
(L. G. Loginova; IZVESTIYA AKADEMII NAUK SSSR: SERIYA
BIOLOGICHESKAYA, No 5, Sep-Oct 85)..... 40

MILITARY MEDICINE

New Type of Wound Infection and Sepsis Induced by Marine
Vibrio V. Vulnificus
(A. K. Ageyev; ARKHIV PATOLOGII, No 8, Aug 85)..... 41

MOLECULAR BIOLOGY

Increase in Potentially Lethal Plant Cell Injuries Caused by
Fusicoccin
(Ye. I. Melekhov, V. N. Anev, et al.; IZVESTIYA AKADEMII
NAUK SSSR: SERIYA BIOLOGICHESKAYA, No 4, Jul-Aug 85)..... 42

Role of Cellular Mediators (Cytomedins) in Regulation of
Genetic Activity
(V. G. Morozov, V. Kh. Khavinson; IZVESTIYA AKADEMII
NAUK SSSR: SERIYA BIOLOGICHESKAYA, No 4, Jul-Aug 85)..... 42

PHARMACOLOGY AND TOXICOLOGY

Legislation on Prevention of Narcotic Drug Abuse
(Yu. Sergeyev; MEDITSINSKAYA GAZETA, 9 Apr 86)..... 44

Effect of Histamine and H ₁ -Receptor Blockers on Platelet Aggregation Induced by Bacterial Endotoxin (B. Z. Shenkman; FARMAKOLOGIYA I TOKSIKOLOGIYA, No 2, Mar-Apr 86).....	47
Pharmacology of Plant Polyphenol Epigallochin (A. G. Kurmukov, M. I. Ayzikov, et al.; FARMAKOLOGIYA I TOKSIKOLOGIYA, No 2, Mar-Apr 86).....	47
Alcohol Intoxication and γ-Aminobutyric Acid System in Brain During Action of Pantogam and Phenylbuta (I. A. Sytinskiy, V. M. Kopelevich, et al.; FARMAKOLOGIYA I TOKSIKOLOGIYA, No 2, Mar-Apr 86).....	48
Influence of 3, 12-b-Dimethyl-Octahydroindol-(2,3-a) Quinolizine on Alcohol Addiction in Laboratory Animals (M. M. Borisov, T. P. Mufazalova, et al.; FARMAKOLOGIYA I TOKSIKOLOGIYA, No 4, Jul-Aug 86).....	49
Psychotropic Effects of Some N-Crown Ether Derivatives (S. E. Timofeyeva, T. A. Voronina, et al.; FARMAKOLOGIYA I TOKSIKOLOGIYA, No 4, Jul-Aug 86).....	50
Influence of Dimetpramide and Metoclopramide on Catecholamine Turnover Rates in Rat Brain Subcortical-Brainstem Structures (V. I. Legeza, M. F. Kamynina, et al.; FARMAKOLOGIYA I TOKSIKOLOGIYA, No 4, Jul-Aug 86).....	50
Influence of Amizyl on Carbohydrase Activity in Intact and Stressed Animals (U. B. Zakirov, B. Sh. Shaislamov, et al.; FARMAKOLOGIYA I TOKSIKOLOGIYA, No 4, Jul-Aug 86).....	51
Kinetics of Excretion of Membrane-Active Macroheterocycle in Mice (Ye. K. Plotnikova, N. Ya. Golovenko, et al.; FARMAKOLOGIYA I TOKSIKOLOGIYA, No 4, Jul-Aug 86).....	51
Influence of Enomelanin on Red Cell Hemolysis Induced by Free Radical Reactions and Other Factors (I. Ye. Kovalev, N. P. Danilova, et al.; FARMAKOLOGIYA I TOKSIKOLOGIYA, No 4, Jul-Aug 86).....	52
Influence of Growth Stimulating and Blocking Concentrations of Organophosphorus Pesticides on Hydrobionts (L. M. Apasheva, K. D. Poltorak, et al.; IZVESTIYA AKADEMII NAUK SSSR: SERIYA BIOLOGICHESKAYA, No 4, Jul-Aug 85).....	53

PHYSIOLOGY

- Experimental Evidence of Reverberation in Central Nervous System
(G. A. Vartanyan, A. A. Pirogov, et al.; DOKLADY AKADEMII NAUK SSSR, No 5, Apr 86)..... 54

- Relationship Among Various Bioelectric Activity Bands in Human Brain
(S. V. Medvedev, M. A. Belov; DOKLADY AKADEMII NAUK SSSR, No 6, Apr 86)..... 54

PUBLIC HEALTH

- Financing Improvement of Rural Health Care
(S. Tsikora; IZVESTIYA, 14 Aug 86)..... 56

- Alcoholism Treated With Acupuncture
(A. Abakumov; TRUD, 18 Jul 86)..... 60

- Regulation of Electrotonic Synapse Conductivity Between Neurons of Pond Snail by ACTH Molecule Active Center Fragments
(A. G. Kamkin, I. S. Kiseleva, et al.; DOKLADY AKADEMII NAUK SSSR: No 5, Apr 86)..... 61

- Deficiencies in Polio Treatment
(A. Galayeva; LITERATURNAYA GAZETA, 17 Sep 86)..... 61

- Complications From Nonsterile Injection Needles
(A. Galayeva; LITERATURNAYA GAZETA, 3 Sep 86)..... 62

RADIATION BIOLOGY

- Contributions of Antioxidants and Endogenous Thiols to Radioresistance
(Ye. B. Burlakova, G. F. Ivanenko, et al.; IZVESTIYA AKADEMII NAUK SSSR: SERIYA BIOLOGICHESKAYA, No 4, Jul-Aug 85)..... 63

- Multivariate Statistical Analysis of Tissue Basophils in Acute Radiation Sickness
(A. V. Datsenko, V. V. Shikhodyrov, et al.; ARKHIV ANATOMII, GISTOLOGII I EMBRIOLOGII, No 1, Jan 86)..... 63

CONFERENCES

- Second All-Union Symposium on Technical Bioenergetics
(S. Kh. Tapaltsyan, V. Ye. Nikitina; BIOTEKHNOLOGIYA, No 1, Jan-Feb 86)..... 65

- Coordination Symposium on Genetic Engineering of Cellulases
(I. O. Gordon, N. N. Zhuze; BIOTEKHNOLOGIYA, No 1, Jan-Feb 86)..... 66

MISCELLANEOUS

- Newspaper's Criticism of Lab Answered
(V. Yakovlev; SOVETSKAYA KIRGIZIYA, 16 Jul 86)..... 67
- Biodeterioration in Industry
(Yu. P. Nyuksha; MIKOLOGIYA I FITOPATOLOGIYA, No 6,
Nov-Dec 85)..... 68
- Reaction of Planktonic Algae (Bacillariophyta and Pyrrophyta)
to Water From Deoxygenated Zone of the Black Sea
(G. G. Polikarpov, G. Ye. Lazorenko, et al.; DOKLADY
AKADEMII NAUK UKRAINSKOY SSR: SERIYA B: GEOLOGICHESKIYE,
KHIMISHESKIYE I BIOLOGICHESKIYE NAUKI, No 8, Aug 86)..... 68
- Electron Diagnostic Microscope
(K. Dzhunelova; TURKMENSKAYA ISKRA, 22 Jul 86)..... 69

JPRS-UBB-87-002

6 FEBRUARY 1987

USSR REPORT
LIFE SCIENCES
BIOMEDICAL AND BEHAVIORAL SCIENCES

CONTENTS

AGROTECHNOLOGY

Free Cytokinins in Wheat Leaves Infected With Puccinia
Graminis Pers. F. Sp. Tritici Eriks, Et E. Henn.
(G. Vizarova, L.S. Shashkova, et al.; MIKOLOGIYA I
FITOPATOLOGIYA, No 4, Jul-Aug 86)..... 1

Correlation Between Morphological Differentiation of
Entomophthora Thaxteriana Patch and Synthesis of
Secondary Metabolites
(E.G. Voronina, G.M. Gindina, et al.; MIKOLOGIYA I
FITOPATOLOGIYA, No 4, Jul-Aug 86)..... 2

Attractive Power of Some Epoxy Compounds for Tiger Moth Males
Phragmatoria Fuliginosa (Arctiidae) and for Geometrid Moth
Caustoloma (Therapis) Flavicaria (Geometriidae)
(B.G. Kovalev, L.A. Nikolayeva; ZOOLOGICHESKIY
ZHURNAL, No 5, May 86)..... 2

BIOCHEMISTRY

Effect of Phenobarbital on Bacterial Luciferase of
Photobacterium Fischeri
(V.S. Danilov; MIKROBIOLOGIYA, No 4, Jul-Aug 85)..... 3

Repression of β -Galactosidase Synthesis by Isopropylthio-Galactoside as a Result of Induction of 'Antisense RNA'
(O.B. Yarchuk, I.N. Troyanovskaya, et al.; DOKLADY AKADEMII NAUK SSSR, No 6, Oct 86)..... 4

BIOTECHNOLOGY

Kinetic Regularities and Mechanism of Methane Formation by Methanogenic Association. Part 2. Study of Dynamics of Glucose Conversion

(S.V. Kalyuzhnny, S.D. Varfolomeyev; BIOTEKHNOLOGIYA, No 3, May-Jun 86)..... 5

Precipitation Filtering Centrifuges for Separating Biotechnology Production Products

(A.I. Guslavskiy, B.L. Chamortsev, et al.; BIOTEKHNOLOGIYA, No 3, May-Jun 86)..... 6

Construction of Industrial Lines for Production of Microbial Biomass Cultures on Gaseous Nutrients

(V.N. Danilov, B.G. Litvak, et al.; BIOTEKHNOLOGIYA, No 3, May-Jun 86)..... 6

Use of Microprocessor Means To Control Fermentation During Biomass Production

(I.M. Chirkov, Yu.Kh. Mantushev, et al.; BIOTEKHNOLOGIYA, No 3, May-Jun 86)..... 7

Prospects in Use of *Musca Domestica* for Biodegradation of Domestic Wastes

(Ye.G. Golubeva; EKOLOGIYA, No 4, Jul-Aug 86)..... 7

Hybridization of Somatic Cells and Possibilities of Analysis and Manipulation of Cytoplasm Genes of Higher Plants

(Yu.Yu. Gleba, I.V. Myashkene; BIOPOLIMERY I KLETKA, No 1, Jan-Feb 86)..... 8

Genetic Engineering on Service of Public Health

(Ye.D. Sverdlov; PRIRODA, No 10, Oct 86)..... 8

ENVIRONMENT

Radioecological Studies in Urals

(N.V. Kulikov; EKOLOGIYA, No 4, Jul-Aug 86)..... 10

GENETICS

Two Regions in Plasmid pTiC58 Determine Auxin Production in *Agrobacterium Tumefaciens*

(L.S. Chernin, I.D. Avdiyenko, et al.; GENETIKA, No 9, Sep 85)..... 11

Spectrum and Mechanisms of Oncogenicity of Group IncW R Plasmids in Agrobacterium Tumefaciens (I.D. Avdiyenko, M.N. Sakharova, et al.; GENETIKA, No 9, Sep 85).....	12
Expression of Transposable Pseudomonas Aeruginosa Phages in Pseudomonas Putida. Part 1. Lysogenicity and Lytic Efficiency (S.A. Gorbunova, A.S. Yanenko, et al.; GENETIKA, No 9, Sep 85).....	12
Genetic Principles in Triticale Production. Part 2. Improving Efficiency of Triticale Production (I.A. Gordey, G.M. Gordey; GENETIKA, No 9, Sep 85).....	13

IMMUNOLOGY

Effects of Live Tularemia Vaccine on Chemical Mutagenesis in White Rats (V.N. Zilfyan, A.K. Nersesyan, et al.; GENETIKA, No 9, Sep 85).....	14
Comparative Studies on Antiproliferative Activities of Placental Interferons (D.K. Mkervalishvili, D.G. Merabishvili, et al.; VOPROSY VIRUSOLOGII, No 5, Sep-Oct 85).....	15
Hybridoma Cloning by End-Point Dilution Technique (A.S. Novokhatskiy, I.V. Malakhova, et al.; VOPROSY VIRUSOLOGII, No 5, Sep-Oct 85).....	15
Monograph on Recent Genetic Advances (G. Zelenko; SOVETSKAYA KIRGIZIYA, 19 Sep 86).....	16
Dynamics of Antihemagglutinin Levels in Individuals Immunized Yearly With Inactivated Influenza Vaccine (A.A. Selivanov, L.G. Rudenko, et al.; VOPROSY VIRUSOLOGII, No 5, Sep-Oct 85).....	16

LASER EFFECTS

Transscleral Ruby Laser Coagulation in Experiments on Animals (S.G. Legeza, A.P. Privalov; OFTALMOLOGICHESKIY ZHURNAL, No 5, 1985).....	18
Iridectomy in Cases With Laser-Refractory Iris (V.I. Shurkin; VESTNIK OFTALMOLOGII, No 5, Sep-Oct 86).....	24

Effectiveness of Laser Trabeculoplasty in Primary Open Angle Glaucoma With Variable Pigmentation of Trabecular Apparatus (N.G. Mamedov, A.L. Shtilerman; VESTNIK OFTALMOLOGII, No 5, Sep-Oct 86).....	25
MARINE MAMMALS	
Morphologic Studies of Arterial System of Pinnipedia (Ye.I. Sobolevskiy; ZOOLOGICHESKIY ZHURNAL, No 9, Sep 86).....	26
MEDICINE	
Comparative Therapeutic Trials With Different Ultrasonic Modalities in Glaucoma Surgery (G.I. Dolzhich, G.G. Goryun; VESTNIK OFTALMOLOGII, No 5, Sep-Oct 86).....	27
Indications for Corticosteroids in Chemical Eye Burns (H.G. Struck, C. Kirmsse, et al.; VESTNIK OFTALMOLOGII, No 5, Sep-Oct 86).....	28
Experimental Therapy of Acute Thrombosis by Tissue Activator of Plasminogen (I.K. Paradeyeva, S.N. Osipov, et al.; PATOLOGICHESKAYA FIZIOLOGIYA I EKSPERIMENTALNAYA TERAPIYA, No 4, Jul-Aug 85).....	28
Xenogenic Synovial Fluid Therapy of Human Arthroses (S.F. Manziy, I.V. Shumada, et al.; VISNYK AKADEMII NAUK UKRAYINSKOYI RSR, No 10, Oct 86).....	29
MICROBIOLOGY	
Ultrafiltration and Gel Filtration in Purification and Concentration of Venezuelan Equine Encephalomyelitis (VEE) Virus (S.Yu. Klyushnik, B.V. Mchedlishvili, et al.; VOPROSY VIRUSOLOGII, No 5, Sep-Oct 85).....	30
Pathogenicity of Lassa Fever Virus for Laboratory Mice (I.S. Lukashevich, S.V. Orlova, et al.; VOPROSY VIRUSOLOGII, No 5, Sep-Oct 85).....	31
Accumulation of Metal-Containing Substrates by Biodegrading Fungi (V.I. Bilay, L.P. Sidorenko, et al.; MIKOLOGIYA I FITOPATOLOGIYA, No 4, Jul-Aug 86).....	31

Kinetic Regularities of Growth and Metabolism of Thermophilic Hydrogen-Forming Culture (V.I. Sklyar, Ye.Ye. Karyakina, et al.; BIOTEKHNOLOGIYA, No 3, May-Jun 86).....	32
Some Specifics of Development and Biosynthetic Activity of Mixed Microorganism Culture (N.S. Landau, I.I. Milovanova, et al.; MIKROBIOLOGIYA, No 4, Jul-Aug 85).....	32
Microbiological Formation of Methane From Hexadecane (Ye.P. Rozanova, T.N. Nazina, et al.; MIKROBIOLOGIYA, No 4, Jul-Aug 85).....	33
Influence of Nonionogenic Surfactants on Sulfate Reduction (R.Kh. Khazipov, I.B. Rezyapova; MIKROBIOLOGIYA, No 4, Jul-Aug 85).....	34
Kinetics of Growth and Development of <i>Bacillus Thuringiensis</i> Upon Periodic Cultivation (Z.V. Sakharova, Yu.N. Ignatenko, et al.; MIKROBIOLOGIYA, No 4, Jul-Aug 85).....	34
Stability of NPL-1 and NPL-41 Naphthalene Biodegradation Plasmids in Populations of <i>Pseudomonas Putida</i> Under Continuous Cultivation Conditions (A.M. Boronin, A.Ye. Filonov, et al.; MIKROBIOLOGIYA, No 4, Jul-Aug 85).....	35
Effectiveness of Clover Nodule Bacteria Mutants Produced With Repeated Ultra Violet Radiation (E.B. Lapinskas; MIKROBIOLOGIYA, NO 4, Jul-Aug 85).....	36
Kinetics of Oxidation of Fe ²⁺ by Culture of <i>Thiobacillus Ferrooxidans</i> in Solutions Obtained by Bacterial Leaching of Arsenic-Containing Concentrates (N.G. Koreshkov, V.V. Panin, et al.; MIKROBIOLOGIYA, No 4, Jul-Aug 85).....	36
Some Biological Specifics of Variance of <i>Bacillus Thuringiensis</i> Subsp. <i>Galleriae</i> Formed Under Continuous Cultivation (T.P. Blokhina, Ya.I. Rautenshteyn, et al.; MIKROBIOLOGIYA, No 4, Jul-Aug 85).....	37
MILITARY MEDICINE	
Respiratory Patterns in Hemorrhagic Shock (O.S. Nasonkin, I.B. Voronov, et al.; PATOLOGICHESKAYA FIZIOLOGIYA I EKSPERIMENTALNAYA TERAPIYA, No 2, Mar-Apr 85).....	38

Regional Changes in Circulation Following Massive Hemorrhage in Combination With Immobilization (O.A. Kovalev, S.K. Sheremetevskaya, et al.; PATOLOGICHESKAYA FIZIOLOGIYA I EKSPERIMENTALNAYA TERAPIYA, No 2, Mar-Apr 85).....	39
Effects of Burns and Radiothermal Injuries on Serum Fibronectin Levels and RES Clearance (R.S. Budagov, A.V. Konov, et al.; PATOLOGICHESKAYA FIZIOLOGIYA I EKSPERIMENTALNAYA TERAPIYA, No 2, Mar-Apr 85).....	39
MOLECULAR BIOLOGY	
Expression of HBsAg Gene Controlled by Gene PH05 Promoter in Yeast Cells (N.N. Granovskiy, V.M. Zhdanov, et al.; VOPROSY VIRUSOLOGII, No 5, Sep-Oct 85).....	41
NIEMR	
Absorption by DNA Solutions in 9-12 GHz Range (V.Ya. Maleyev, V.A. Kashpur, et al.; BIOPOLIMERY I KLETKA, No 1, Jan-Feb 86).....	42
PHYSIOLOGY	
Effects of Adaptation to High-Altitude Hypoxia on Microcirculation in Rats With Early Stages on Burn Trauma (Yu.M. Shtykhno, Z.R. Atadzhanova; PATOLOGICHESKAYA FIZIOLOGIYA I EKSPERIMENTALNAYA TERAPIYA, No 2, Mar-Apr 85).....	43
Effects of Medium MW Plasma Peptides From Intact and Burn- Injured Dogs on Blood-Brain Permeability in Mice (B.M. Vladman, I.A. Volchegorskiy, et al.; PATOLOGICHESKAYA FIZIOLOGIYA I EKSPERIMENTALNAYA TERAPIYA, No 2, Mar-Apr 85).....	44
Effect of Staphylococcal Toxin on Calcium-Transporting Systems in Heart Muscles (G.Ye. Brill; PATOLOGICHESKAYA FIZIOLOGIYA I EKSPERIMENTALNAYA TERAPIYA, No 4, Jul-Aug 85).....	44
Effect of Kallikrein on Development of General Adaptation Syndrome (Yu.V. Kolenda, S.V. Vovchuk, et al.; PATOLOGICHESKAYA FIZIOLOGIYA I EKSPERIMENTALNAYA TERAPIYA, No 4, Jul-Aug 85).....	45

PHARMACOLOGY AND TOXICOLOGY

Pharmacologic Activity of Salts of p-(1-Adamantyloxamido-Sulfonyl)-Succinanylic Acid as a Function of Membranotropic Properties (L.A. Porokhnyak, V.F. Konev, et al.; FARMATSIYA, No 5, Sep-Oct 85).....	46
Kinetics of Decomposition of Phenazepam in Tablets (V.G. Belikov, T.N. Nesterova, et al.; FARMATSIYA, No 5, Sep-Oct 85).....	47
Pharmacokinetics and Clinical Effect of Single Dose of Bemertil (S.S. Boyko, Yu.G. Bobkov, et al.; FARMAKOLOGIYA I TOKSIKOLOGIYA, No 5, Sep-Oct 86).....	47
General Regularities of Action of Psychotropic Drugs (N.N. Karkishchenko; FARMAKOLOGIYA I TOKSIKOLOGIYA, No 5, Sep-Oct 86).....	48
Assessment of Nootropic Effect of Mebicar in Clinical Practice (I.Ye. Zimakova, N.S. Makarchikov, et al.; FARMAKOLOGIYA I TOKSIKOLOGIYA, No 5, Sep-Oct 86).....	49
Cardiotropic Properties of Lithium Oxybutyrate in Experimental and Clinical Studies (P.A. Galenko-Yaroshevskiy, et al.; FARMAKOLOGIYA I TOKSIKOLOGIYA, No 5, Sep-Oct 86).....	49
Effect of Short-Term and Long-Term Action of Nitrates on Some Indicators of Hemodynamics in Patients With High Altitude Pulmonary Hypertension (M.T. Nanayeva, D.T. Nusupova; FARMAKOLOGIYA I TOKSIKOLOGIYA, No 5, Sep-Oct 86).....	50
Anti-Anginal Action of Corinfar (R.M. Sadkovaya, T.M. Zinkovskaya, et al.; FARMAKOLOGIYA I TOKSIKOLOGIYA, No 5, Sep-Oct 86).....	51
Experimental Clinical Study of Effect of Sensite on Cerebral Blood Flow and State of Hemostasis in Cerebral Ischemias (Ye.M. Burtsev, L.G. Miller, et al.; FARMAKOLOGIYA I TOKSIKOLOGIYA, No 5, Sep-Oct 86).....	51
N-Glycosides. Part 5. 3-Glycosyl-4-hydroxyhexahydro-Pyrimidine-2-Thiones and Their Acrylic Precursors--Glycosylthioureas as Stimulants of Non-Specific Resistance to Infection (L.A. Ignatova, A.D. Shutalev, et al.; KHIMIKO-FARMASEVTICHESKIY ZHURNAL, No 12, Dec 85).....	52

Possibility of Radiation Sterilization and Pasteurization of Solutions of Some Medicines and Components of Injection Solutions	
(S.A. Safarov; KHIMIKO-FARMASEVTICHESKIY ZHURNAL, No 12, Dec 85).....	53
Method of Control of Ampuled Injection Solutions	
(V.D. Viktorov, V.B. Denezhkin, et al.; KHIMIKO- FARMASEVTICHESKIY ZHURNAL, No 12, Dec 85).....	53
Peroral Medicinal Forms of Low-Molecular Weight Polyvinylpyrrolidone	
(O.V. Ber, M.T. Alyushin, et al.; FARMATSIYA, No 6, Nov-Dec 85).....	54
Isolation and Assay of Polysponin in Chemical Toxicological Analysis	
(G.B. Iskenderov; FARMATSIYA, No 4, Jul-Aug 85).....	54
PUBLIC HEALTH	
USSR Pharmacy Networks Tasks	
(M.A. Klyuyev; FARMATSIYA, No 6, Nov-Dec 85).....	56
Kiev Radiology Center	
(A. Romaneko Interview; TRUD, 11 Sep 86).....	63
Difficulties With Heart Transplant Operations	
(N. Prokofyeva; MOSCOW TELEVISION SERVICE, 11 Nov 86)...	65
Poor Uzbek Pharmacy Services	
(PRAVDA VOSTOKA, 1 Nov 86).....	67
Pharmaceutical Aspects of Campaign Against Drunkenness and Alcoholism	
(M.T. Alyushin; FARMATSIYA, No 4, Jul-Aug 86).....	69
Predicting Basic Trends in Rural Pharmaceutical Services in 12th Five-Year Plan	
(L.V. Borisenko; FARMATSIYA, No 4, Jul-Aug 86).....	74
Biomedical Training of Pharmacists	
(V.I. Prokopishin, V.I. Gikavyy; FARMATSIYA, No 4, Jul-Aug 85).....	78
Cost Effectiveness of Drug Utilization in Hospitals	
(V.M. Tolochko, M.A. Alyushina, et al.; FARMATSIYA, No 4, Jul-Aug 86).....	79

Improvements in Pediatric Ophthalmology Services in Moscow (S.B. Korolchuk, Ye.I. Kovalevskiy, et al.; VESTNIK OFTALMOLOGII, No 5, Sep-Oct 86).....	79
Permanence of Service of Production Staff at Pharmacy Establishments (V.L. Bazarnyy, T.V. Reztsova, et al.; FARMATSIYA, No 6, Nov-Dec 85).....	80
Determination of Information Requirements of Public Health Workers by Means of Sociological Studies (L.V. Moshkova, T.D. Semenova, et al.; FARMATSIYA, No 2, Mar-Apr 86).....	80
Teaching of Biological and Medical Subjects in Pharmaceutical Institutes (A.N. Kudrin, V.V. Ryazhenov, et al.; FARMATSIYA, No 2, Mar-Apr 86).....	81
Mini-Computer Based Determination of Drug Needs on Level of Interhospital Pharmacy (N.N. Popova, V.A. Kalashnikov; FARMATSIYA, No 2, Mar-Apr 86).....	81
Work of Central Rayon Pharmacy Analysts in Affiliated Pharmaceutical Institutions (M.I. Kuleshova, L.N. Guseva, et al.; FARMATSIYA, No 5, Sep-Oct 85).....	82
RADIATION BIOLOGY	
Radiation Hygiene Operations of Gomel Oblast Sanitary- Epidemiological Station (A.G. Kondratyev, M.A. Vinogradov, et al.; ZDRAVOOKHRANENIYE BELORUSII, No 9, Sep 86).....	83
CONFERENCES	
Fifth All-Union Biochemical Congress (V.M. Lakhtin; BIOTEKHNOLOGIYA, No 3, May-Jun 86).....	89
MISCELLANEOUS	
Extrasensory Medical Diagnosis and Therapy Repudiated (N. Blokhin; IZVESTIYA, 9 Aug 86).....	90
Scientific-Technical Cooperation With Socialist Countries (V.Z. Lavrentyeva, K.D. Sedova; FARMATSIYA, No 2, Mar-Apr 86).....	95

Scientific-Technological Cooperation With France in
Field of Pharmacology
(R.I. Tentsova, M.T. Alyushin, et al.; FARMATSIYA,
No 2, Mar-Apr 86)..... 95

/9835

JPRS-UBB-87-003
10 FEBRUARY 1987

**USSR REPORT
LIFE SCIENCES
BIOMEDICAL AND BEHAVIORAL SCIENCES**

CONTENTS

AGROTECHNOLOGY

Briefs

BIOCHEMISTRY

Some Urgent Problems of Biochemical Service in Socialist Republic of Montenegro (Y. Kavarich, L. Rakich; LABORATORNOYE DELO, No 7, Jul 85).....	2
Thyroid Hormone Receptor of Cancer Cells as Transforming Growth Factors (A. Abdulkarimov, Sh. S. Azimova, et al.; DOKLADY AKADEMII NAUK SSSR, No 3, Apr 86).....	3
Heat Shock Proteins in Nuclear Matrix of Cultured Zaydela Hepatoma Cells (S. B. Akopov, S. N. Kuzmina, et al.; DOKLADY AKADEMII NAUK SSSR, No 3, Apr 86).....	4
Amino Acid Thermal Polycondensation Model in Migratory Aqueous Solutions in Earth's Lithosphere (G. A. Lavrentyev, T. F. Strigunkova, et al.; DOKLADY AKADEMII NAUK SSSR, No 2, Mar 86).....	5

BIOPHYSICS

- Putative Relationship Between Electromagnetic and Acoustic Emissions of Living Cells
(M. Ye. Perelman; SOOBSHCHENIYA AKADEMII NAUK GRUZINSKOY SSR, No 3, Jun 86)..... 6

ENVIRONMENT

- Radioecologic Assessment of Ecosystems in Vicinity of Beloyarsk Nuclear Power Station
(I. V. Molchanova, Ye. N. Karavayeva, et al.; EKOLOGIYA, No 5, Sep-Oct 85)..... 7
- Effects of Variable $^{14}\text{CO}_2$ Concentrations in Air on ^{14}C Behavior in Atmosphere-Plant System
(Ye. A. Fedorov, R. P. Ponomareva, et al.; EKOLOGIYA, No 5, Sep-Oct 85)..... 8

EPIDEMIOLOGY

- Medium for Detection of Arginine Dihydrolase and Lysine and Ornithine Decarboxylases in Pseudomonads
(S. A. Gabrielyan, T. B. Safonova, et al.; LABORATORNOYE DELO, No 5, May 86)..... 9
- Methods of Concentration of Erythrocytes Damaged by the Malaria Parasite and "Free" Parasites (Literature Review)
(A. M. Allakhverdiyev, D. A. Nushtayev; LABORATORNOYE DELO, No 5, May 86)..... 10
- Fluctuation in Population of Little Suslik in Plague Natural Focus of Northwestern Caspian Region Over 50 Years (1932-1982)
(I. Z. Klimchenko, P. A. Petrov, et al.; EKOLOGIYA, No 1, Jan-Feb 86)..... 11

FOOD TECHNOLOGY

- Far Eastern Science Center Studies in Soil Science and Marine Biology
(SOVIETSKAYA ROSSIYA, 27 Jul 86)..... 12

GENETICS

- Increased Amounts of Nuclear DNA During Alkaloid Biosynthesis in Serpentina Rauwolfia Cell Culture
(V. A. Kunakh, I. A. Kostenyuk, et al.; DOKLADY AKADEMII NAUK UKRAINSKOY SSR. SERIYA B: GEOLOGICHESKIYE, KHIMICHESKIYE I BIOLOGICHESKIYE NAUKI, No 7, Jul 86)..... 14

- Oat Prolamine Inheritance and Genetic Control System in
Avena Sativa
 (V. A. Portyanko, A. A. Pomortsev, et al.; DOKLADY
 AKADEMII NAUK SSSR in Russian Vol 287, No 2, Mar 86)..... 15

HUMAN FACTORS

- Investigation of Microstructure of Arbitrary Motions of
 Operator
 (G. G. Tsulaya, M. V. Khvingiya, et al.;
 SOOBSHCHENIYA AKADEMII NAUK GRUZINSKOY SSR,
 No 2, Feb 86)..... 16

IMMUNOLOGY

- Immunotropic Properties of Membrane-Active Complexone
 Containing Pharmacophoric Fragment
 (I. E. Britva, T. O. Filippova, et al.; DOKLADY
 AKADEMII NAUK UKRAINSKOY SSR. SERIYA B. GEOLOGICHES-
 KIYE, KHIMICHESKIYE I BIOLOGICHESKIYE NAUKI, No 8,
 Aug 86)..... 20
- Problems in Immunotoxicology
 (I. Ye. Kovalev, R. G. Azizov; FARMAKOLOGIYA I
 TOKSIKOLOGIYA, No 1, Jan-Feb 86)..... 24
- Correction of Immune Response by Myelopeptides in MRL/Mp-
 lpr/lpr Mice With Congenital Autoimmune Disorders
 (R. V. Petrov, U. V. Madzhidov, et al.; DOKLADY
 AKADEMII NAUK SSSR, No 3, Apr 86)..... 25

LASER BIOEFFECTS

- Principles of Low Intensity Laser Therapy Based on Biophotometry
 (M. T. Aleksandrov, M. Ya. Bezchinskaya, et al.;
 VESTNIK OTORINO-LARINGOLOGII, No 3, May-Jun 86)..... 26
- Low-Energy Laser Radiation in Combined Treatment of Ozena
 (A. I. Bikbayeva, R. A. Sharipov; VESTNIK OTORINO-
 LARINGOLOGII, No 3, May-Jun 86)..... 27
- Laser Therapy in Ophthalmology
 (L. A. Linnik; OFTALMOLOGICHESKIY ZHURNAL, No 8, 1985)..... 28
- Selection of Laser for Treatment of Anterior Eye Segment
 and Eyelids
 (V. V. Volkov, L. I. Balashevich, et al.; OFTALMOLO-
 GHICHESKIY ZHURNAL, No 8, 1985)..... 29

Use of Quantum Generator Emissions in Selected Corneal Diseases (Ye. S. Libman, R. A. Tolmachev, et al.; OFTALMOLOGICHESKIY ZHURNAL, No 8, 1985).....	30
Clinical and Morphological Aspects of Helium-Neon Laser Treatment of Secondary Endothelial-Epithelial Dystrophy of Cornea (A. D. Semenov, L. V. Sumskaya, et al.; OFTALMOLOGICHESKIY ZHURNAL, No 8, 1985).....	31
Sequential Combined Laser Therapy for Long-Standing, Non-healing Corneal Defects (P. P. Chechin; OFTALMOLOGICHESKIY ZHURNAL, No 8, 1985)....	32
Laser Therapy of Corneal Diseases (A. V. Bolshunov, N. V. Yermakov, et al.; OFTALMOLOGICHESKIY ZHURNAL, No 8, 1985).....	33
Use of LTM-01 Helium-Neon Laser in Treatment of Anterior Eye Segment Pathology (O. B. Chentsova, G. L. Ukhaneva, et al.; OFTALMOLOGICHESKIY ZHURNAL, No 8, 1985).....	34
Ocular Hypotension Following Argon Laser Trabeculospasis in Treatment of Open-Angle Glaucoma (I. B. Chokova; OFTALMOLOGICHESKIY ZHURNAL, No 8, 1985)....	35
Transscleral Laser Coagulation of Ciliary Body in Absolute Glaucoma (N. N. Aleksandrova, P. I. Saprykin; OFTALMOLOGICHESKIY ZHURNAL, No 8, 1985).....	36
Effectiveness of Laser Trabeculoplasty in Open-Angle Glaucoma (A. S. Smelovskiy, M. N. Boykova, et al.; OFTALMOLOGICHESKIY ZHURNAL, No 8, 1985).....	37
Comparative Assessment of Conventional and Laser Surgery in Far Advanced Uncompensated Open-Angle Glaucoma (N. G. Mamedov, A. L. Shtilerman, et al.; OFTALMOLOGICHESKIY ZHURNAL, No 8, 1985).....	38

MEDICINE

KEF-1 Electrophoretic Concentrator for Concentration of Microorganisms (L. A. Marchenko, M. O. Birger, et al.; LABORATORNOYE DELO, No 7, Jul 85).....	39
Effect of Lithium Hydroxybutyrate on Viability of Preserved Donor Kidney (V. M. Sholokhov, Kh. Kh. Babaniyazov, et al.; FARMAKOLOGIYA I TOKSIKOLOGIYA, No 3, May-Jun 86).....	40

MICROBIOLOGY

- Molecular-Genetic Mechanisms of Antigen Variability in Microorganisms
(V. V. Tets, L. B. Borisov; USPEKHI SOVREMENNOY BIOLOGII, No 2, Mar-Apr 86)..... 41
- Immunomodulators of Microbial Origin and Rapid Tumor Growth
(D. G. Zatula, G. S. Lisovenko, et al.; USPEKHI SOVREMENNOY BIOLOGII, No 2, Mar-Apr 86)..... 42
- Mechanisms of Development of Botulinic Paralytic Syndrome
(N. P. Chesnokova; USPEKHI SOVREMENNOY BIOLOGII, No 2, Mar-Apr 86)..... 43
- Growth Kinetics of Mycelial Colony
(V. N. Kotov; DOKLADY AKADEMII NAUK UKRAINSKOY SSR. SERIYA B: GEOLOGICHESKIYE, KHMCHESKIYE I BIOLOGICHESKIYE NAUKI, No 7, Jul 86)..... 44

PHARMACOLOGY AND TOXICOLOGY

- Change in Surface Charge of Membranes and Potentiation of Phospholipase A₂ Under Influence of Cytotoxin From Central Asian Cobra Venom
(O. V. Krasilnikov, L. Ya. Yukelson, et al.; BIOLOGICHESKIYE NAUKI, No 3, Mar 85)..... 45
- Effects of Neuroleptics on Thermoregulation in Normo- and Hypo-Thermia
(N. O. Bazhanov, V. N. Salyayev; FARMAKOLOGIYA I TOKSIKOLOGIYA, No 3, May-Jun 86)..... 46
- Effects of Synthetic Analogs of Enkephalin, Morphine and Their Antagonists on Experimental Traumatic Shock
(V. G. Motin, V. V. Yasnetyov; FARMAKOLOGIYA I TOKSIKOLOGIYA, No 3, May-Jun 86)..... 47
- Drug Effects on Energy Status of Brain Structures
(V. I. Arkhipov, A. Yu. Bulantsev; FARMAKOLOGIYA I TOKSIKOLOGIYA, No 3, May-Jun 86)..... 48
- Antiviral Activity of Bonafton and Acyclovir Against Herpes Simplex Virus Types 1 and 2
(A. N. Fomina, I. S. Nikolayeva, et al.; KHIMIKO-FARMATSEVTICHESKIY ZHURNAL, No 2, Feb 86)..... 49
- Dose-Response Evaluation of Anxiolytic and Nootropic Effects of Potassium Orotate
(N. N. Karkishchenko, M. I. Khaytin; FARMAKOLOGIYA I TOKSIKOLOGIYA, No 1, Jan-Feb 86)..... 50

Species-Related Behavioral Effects of Thyrotropin-Releasing Factor (TRF)	51
(S. S. Krylov, A. N. Petrov, et al.; FARMAKOLOGIYA I TOKSIKOLOGIYA, No 1, Jan-Feb 86).....	
Experimental Tests for Detection of Addictive Agents	52
(N. K. Barkov; FARMAKOLOGIYA I TOKSIKOLOGIYA, No 1, Jan-Feb 86).....	
PHYSIOLOGY	
Extracellular Concentration of Calmodulin Inhibitors Modulates Stimulation or Inhibition of Calcium Currents in Snail Neurons	53
(A. Ye. Martynyuk, P. A. Doroshenko; DOKLADY AKADEMII NAUK SSSR, No 2, Mar 86).....	
Functional Changes in CNS in Students in Course of Study Day	54
(G. G. Eliava, A. T. Gedevanishvili, et al.; SOOBSHCHENIYA AKADEMII NAUK GRUZINSKOY SSR, No 3, Jun 86) ..	
Light Sensitivity in Merchant Marine Seamen During Prolonged Passages	55
(C. S. Ponomarchuk, M. K. Voloshin; OFTALMOLOGICHESKIY ZHURNAL, No 8, 1985).....	
Effects of Ambient Temperature on Circadian Dynamics of Motor, Feeding and Drinking Activity in Rats	56
(F. F. Sultanov, R. Tadzhiev, et al.; IZVESTIYA AKADEMII NAUK TURKMENSKOY SSR. SERIYA BIOLOGICHESKIH NAUK, No 3, May-Jun 86).....	
PUBLIC HEALTH	
Fee-Charging for Soviet Medical Care	57
(L. Ivchenko; IZVESTIYA, 11 Jul 86).....	
Laboratory Support for Dispensarization of Hematologic Patients	61
(V. T. Morozova, R. L. Martsishevskaya, et al.; LABORATORNOYE DELO, No 10, Dec 85).....	
City Hospital During Transition to Dispensarization of Entire Population	62
(N. Alikhanov; SOVETSKOYE ZDRAVOOKHRANENIYE, No 5, May 86).....	
Participation of Dentist in Annual Physical Examinations of Vocational School Students	63
(T. N. Podolskaya; SOVETSKOYE ZDRAVOOKHRANENIYE, No 5, May 86).....	

Optimization of Control and Structure of Sanitary-Epidemiologic Service of Large Industrial City (A. I. Kondrysev, N. V. Shestopalov; SOVETSKOYE ZDRAVOOKHRANENIYE, No 5, May 86).....	64
Classification of Populated Points as to Rate of Utilization of Rural Medical Services (A. P. Airyan, A. Ye. Mkrtchyan; SOVETSKOYE ZDRAVOOKHRANENIYE, No 5, May 86).....	65
Reducing the Difference Between Urban and Rural Hospital Care (R. S. Gadzhiev; SOVETSKOYE ZDRAVOOKHRANENIYE, No 5, May 86).....	66
Rural Public Health Management (B. G. Vedenko; SOVETSKOYE ZDRAVOOKHRANENIYE, No 5, May 86).....	67
Soviet Public Health (AGITATOR KAZAKHSTANA, No 10, May 86).....	68
Computers and Women's Health (N. A. Andreyev, S. V. Andreyeva; NAUKA I TEKHNIKA, No 5, May 86).....	69
Aid to "First Aid" Service (I. Altufyev; ZNANIYE -- SILA, 6 Jun 86).....	70
Public Health Resources (K. Bakirkhanov, B. Umurzakov, et al.; EKONOMIKA I ZHIZN, No 3, Mar 86).....	71
Prospects of Public Health Development in Mountainous Regions of Azerbaijan SSR (R. M. Kasumov, I. Yu. Andreyeva, et al.; NARODNOYE KHOZAYISTVO AZERBAYDZHANA, No 5, May 86).....	72
PSYCHIATRY	
Psychotherapy in General Ambulatory Polyclinic Network (V. A. Ovsyannikov; SOVETSKOYE ZDRAVOOKHRANENIYE, No 5, May 86).....	73
PSYCHOLOGY	
Psychology and Brain (V. I. Kuptsov; FILOSOFSKIYE NAUKI, No 3, May-Jun 86).....	74

RADIATION BIOLOGY

- Effect of Gamma-Irradiation of Pollen on Growth and Development
of Plants
(S. V. Andreyenko, D. M. Grodzinskiy; DOKLADY AKADEMII
NAUK UKRAINSKOY SSR. SERIYA B: GEOLOGICHESKIYE,
KHMICHESKIYE I BIOLOGICHESKIYE NAUKI, No 7, Jul 86)..... 75
- Effects of Ionizing Radiation on Development of Birch Seedlings
(V. N. Pozolotina; EKOLOGIYA, No 4, Jul-Aug 85)..... 76

JPRS-UBB-87-004
18 FEBRUARY 1987

USSR REPORT
LIFE SCIENCES
BIOMEDICAL AND BEHAVIORAL SCIENCES

CONTENTS

AEROSPACE MEDICINE

- Effects of Hypokinesia on Calcium Absorption in Rat
Small Intestine
(I. N. Sergeyev, V. B. Spirichev, et al.; VOPROSY
PITANIYA, No 4, Jul-Aug 86)..... 1
- Effect of Diets With Active Vitamin D₃ Metabolite and
Varying Calcium and Phosphorus Content on Composition
of Free Aminoacids in Blood of Hypokinetic Rats
(T. F. Vlasova, M. S. Belakovskiy, et al.; VOPROSY
PITANIYA, No 1, Jan-Feb 86)..... 2

AGROTECHNOLOGY

- Ionizing Radiation-Enhanced Immunity and Disease Resistance
in Onion
(A. P. Dmitriyev, D. M. Grodzinskij; DOKLADY AKADEMII
NAUK UKRAINSKOY SSR. SERIYA B: GELOGICHESKIYE,
KHIMICHESKIYE I BIOLOGICHESKIYE NAUKI, No 9,
Sep 86)..... 3

BIOCHEMISTRY

- Effect of Botulinic Toxin on Activity of Transport ATPases
(N. P. Chesnokova, G. Yu. Kulyash; VOPROSY
MEDITSINSKOY KHIMII, No 1, Jan-Feb 85)..... 4

Synthesis of DNA in Mamma Brain Cells (T. M. Tretyak; USL KHI SOVREMENNOY BIOLOGII, No 1, Jul-Aug 85).....	10
Kinetics of ATP Synthesis During Incomplete Uncoupling and Existence of Threshold Potential for Functional Conversion of H ⁺ -ATPase (G. Ye. Bronnikov; DOKL. AKADEMII NAUK SSSR, No 2, Sep 86).....	10
Cloning of Human Sodium-Uretic Gene Factor and Its Use in Estimating Effectiveness of Gene Expression (A. P. Surguchev, Ye. S. Fominykh, et al.; DOKLADY AKADEMII NAUK SSSR, No 2, Sep 86).....	11
Crystallization of Ribosomes From Thermus Thermophilus (Ye. A. Karpova, I. N. Serdyuk, et al.; DOKLADY AKADEMII NAUK SSSR, No 5, Aug 86).....	12
Superactivity of Acid Phosphatase in Inverted Micelles of Surface-Active Agents in Organic Solvents (A. V. Levashov, N. L. Klyachko, et al.; DOKLADY AKADEMII NAUK SSSR, No 5, Aug 86).....	12

BIOPHYSICS

Possible Participation of Lipids in Accumulation of Information and Amplification of Biological Signals (L. D. Bergelson; ZHURNAL EVOLYUTSIONNOY BIOKHIMII I FIZIOLOGII, No 4, Jul-Aug 86).....	13
--	----

ENVIRONMENT

Nitrate and Nitrite Levels in Food Products Derived From Plants Grown on Mineral Fertilizers (V. I. Murckh; VOPROSY PITANIYA, No 4, Jul-Aug 86).....	14
Residual Levels of Nitrates in Cucurbitaceous Crops and Vegetables Grown in Dzhambul Oblast (O. A. Salata, I. R. Narmukhamedov, et al.; VOPROSY PITANIYA, No 1, Jan-Feb 86).....	14

EPIDEMIOLOGY

Relationship of Seasonal Fluctuations in Numbers of Great Gerbil (Rhomomys Optimus, Rodentia, Cricetidae) to its Reproduction Intensity (L. D. Dubanskaya; ZOOLOGICHESKIY ZHURNAL, No 7, Jul 86).....	15
---	----

GENETICS

Molecular Mechanisms of Development of Full and Mosaic Mutations (G. L. Dianov, Ye. A. Vasyunina, et al.; GENETIKA, No 8, Aug 85).....	17
Variability of Barley With Repeated Treatment of Two Successive Generations by Mutagenic Factors. Part 2. Variability of Quantitative Characteristics (M. A. Pitirimova; GENETIKA, No 8, Aug 85).....	18
C-Coloration of Plant Chromosomes in Progeny of Short- and Tall-Stem Forms of Wheat-Rye Hybrid of Wheat Type, Obtained by Crossing Soft Wheat and Short-Stem EM-1 Rye Mutant (V. I. Semenov, Ye. V. Semenova, et al.; GENETIKA, No 8, Aug 85).....	18
Study of Chromosomal Composition of Gluten Strains of Rye-Wheat Grass Hybrids by C Branding of Chromosomes (V. I. Semenov, Ye. V. Semenova, et al.; GENETIKA, No 8, Aug 85).....	19
Cytogenetic Results of Hyperbaric Oxygenation in Series of Cell Cycles of Lymphocytes of Human Peripheral Blood (Ye. P. Guskov, T. P. Shkurat; GENETIKA, No 8, Aug 85).....	19
Medical-Genetic Study of the Population of Kostroma Oblast. Part 2. Diversity of Hereditary Pathology in Five Rayons (Ye. K. Ginter, A. A. Revazov, et al.; GENETIKA, No 8, Aug 85).....	20
Barley Variability During Repeated Treatment of Two Successive Generations With Mutagenic Factors. Part 1. Effect of Ethylenimine on Gamma-Irradiated Plants (M. A. Pitirimova; GENETIKA, No 7, Jul 85).....	20
Construction of Chromosomal Genetic Map For Cholera Vibrio Based on Conjugative Crossings (N. I. Smirnova, T. S. Ilina, et al.; GENETIKA, No 7, Jul 85).....	21
Comparative Study of Euploid and Aneuploid Plants in F ₂ -F ₃ Generations of Hybrids Triticum Paleocolchicum Men. With Incomplete Wheat Elymus Amphidiploid (M. A. Maslova, V. I. Semenov, et al.: GENETIKA, No 7, Jul 85).....	22
Hybridization of Solanum Berthaultii Hawk. With Wild and Cultured Potato Types Aiming at Transmission of Leaf Pubescence Index by Multicellular Glandular Trichomes (I. M. Surikov, N. A. Zhitlova, et al.: GENETIKA, No 7, Jul 85).....	22

Replication of DNA Necessary to Fix Induced Mutations to Streptomycin Resistance in UV-Irradiated Escherichia Coli Cells (N. P. Dubinin, V. D. Filippov; DOKLADY AKADEMII NAUK SSSR, No 5, Aug 86).....	23
Genetic Study of Products of Fusion of Protoplasts of Fungus Aureobasidium Pullulans (N. V. Mironenko; GENETIKA, No 6, Jun 85).....	24
Immunity of Transposition of Bacteriophage Mu. Influence of Mutation at kil Gene on Development of Immunity (M. A. Mogutov, G. A. Velikodvorskaya, et al.; GENETIKA, No 6, Jun 85).....	24
Medical-Genetic Study of Population of Turkmenia. Part 6. Intra-Population Variability in Analysis of Inter-Marriage Migration and ABO and Hp Marker Systems (Sh. M. Turayeva, Ye. K. Ginter, et al.; GENETIKA, No 6, Jun 85).....	25
Genetic-Demographic Study of Urban Turkmen-Teke Sample With Behavioral Abnormalities (L. G. Kalmykova, V. A. Dyukov, et al.; GENETIKA, No 6, Jun 85).....	26
MARINE MAMMALS	
Topical Organization of Somatic Projections in Cerebral Cortex of Fur Seal (T. F. Ladygina, V. V. Popov, et al.; NEYROFIZIOLOGIYA, No 3, May-Jun 85).....	27
MEDICINE	
Effectiveness of Experimental-Clinical Ultrasonic Stimulation of Drainage System of Eye With Open-Angle Glaucoma (G. I. Dolzhich; OFTALMOLOGICHESKIY ZHURNAL, No 6, 1986)....	28
Hyperbaric Treatment For Atherosclerosis (S. Tayns; TEKHNIKA-MOLODEZHI, No 8, Aug 86).....	28
Protein Assimilation by Burn Patients on Background of Graded High Caloric Gastric Gavage (A. V. Tarasov, M. R. Mordkovich, et al.; VOPROSY PITANIYA, No 1, Jan-Feb 86).....	29
Effects of UV-Blood Irradiation on Pulmonary Free Radical Lipid Peroxidation in Ischemic Heart Disease (K. S. Ternovoy, Yu. V. Roznov, et al.: DOKLADY AKADEMII NAUK UKRAINSKOY SSR. SERIYA B: BIOLOGICHESKIE, KHIMICHESKIE I BIOLOGICHESKIE NAUKI, No 3, Dec 86).....	30

MICROBIOLOGY

Experimental Infection of Ixodid Ticks With Karsha Virus (V. A. Aristova, Ye. A. Gushchina, et al.; PARAZITOLOGIYA, No 5, Sep-Oct 86).....	31
Effects of Inhibitory Concentrations of NaCl on Growth of <i>Candida Tropicalis</i> in Continuous Culture in pH-Stat (A. V. Furyayeva, M. G. Saubanova, et al.; MIKROBIOLOGIYA, No 6, Nov-Dec 85).....	32
Extrachromosomal DNA-Determined Biodegradation of Phenol (V. I. Korzhenevich, G. M. Shub; MIKROBIOLOGIYA, No 6, Nov-Dec 85).....	32
Diphenyl Catabolism by <i>Pseudomonas Putida</i> BS 893 Containing Biodegradation Plasmid pBS241 (I. I. Starovoytov, S. A. Selifonov, et al.; MIKROBIOLOGIYA, No 6, Nov-Dec 85).....	33
Formation of Heterokaryons by Morphological Mutants of <i>Trichothecium Roseum</i> (Ye. M. Ryazanova, Ya. V. Flyakh, et al.; MIKROBIOLOGIYA, No 6, Nov-Dec 85).....	34
Oxidation of n-Alkanes by <i>Pseudomonas Aeruginosa</i> Bearing Plasmid PBS251 (A. L. Andreyeva, A. P. Ilchenko, et al.; MIKROBIOLOGIYA, No 6, Nov-Dec 85).....	34
Oxidation of Hydrogen by Immobilized <i>Renobacter Vacuolatum</i> (D. I. Nikitin, O. I. Slabova; MIKROBIOLOGIYA, No 6, Nov-Dec 85).....	35
Selection and Storage of Acid-Tolerant Yeast Strains (Ye. A. Andreyeva, O. P. Blinova, et al.; MIKROBIOLOGIYA, No 6, Nov-Dec 85).....	35
Variability in Physiological and Biochemical Properties of <i>Bacillus Thuringiensis</i> SBSP. <i>Thuringiensis</i> Following Growth in Soil (A. G. Kolchevskiy, A. Ya. Leskova; MIKROBIOLOGIYA, No 6, Nov-Dec 85).....	36

MILITARY MEDICINE

Changes in Human Body Functions Upon Ingestion of Ready Made Food Concentrates (E. P. Tsyganov, A. N. Agureyev, et al.: VOPROSY PITANIYA, No 1, Jun-Feb 86).....	37
---	----

PHARMACOLOGY AND TOXICOLOGY

Use of Gravitational Overloads as a Screening Procedure in Research on New Biologically Active Agents (M. D. Gayevyy; FARMAKOLOGIYA I TOKSIKOLOGIYA, No 1, Jan-Feb 86).....	42
Comparative Study of Individual and Combined Effects of Trental, Menthol, and Obsidan on Cardio-Respiratory System of Operators Under Extreme Conditions (L. D. Makoyeva, Ye. D. Li, et al.; FARMAKOLOGIYA I TOKSIKOLOGIYA, No 5, Sep-Oct 86).....	44
Computer-Assisted Clinical Evaluation of Drugs (S. G. Kobaladze, A. N. Ioseliani, et al.; FARMAKOLOGIYA I TOKSIKOLOGIYA, No 5, Sep-Oct 86).....	48
Nomination of Neurogenic Disease Therapy for State Prize (V. Vasilenko; IZVESTIYA, 13 Aug 86).....	50
Study of Anti-Metabolite Properties of Anomeric 5-Substituted 2'-Desoxyuridines (T. P. Nedorezova, G. I. Potapova, et al.; KHIMIKO-FARMATSEVTICHESKIY ZHURNAL, No 6, Jun 86).....	52
Synthesis and Biological Activity of BIS[p-Hexyloxyphenyl]-Alkandiones (L. M. Petrosyan, G. A. Gevorkyan, et al.; KHIMIKO-FARMATSEVTICHESKIY ZHURNAL, No 6, Jun 86).....	53
Comparative Study of ACTH ₄₋₁₀ Analogs--Learning and Memory Stimulation (M. A. Ponomareva-Stepnaya, V. D. Bakharev, et al.; KHIMIKO-FARMATSEVTICHESKIY ZHURNAL, No 6, Jun 86).....	53
Choline Esters of N-Substituted Amino Acids. Part 2. Synthesis of Dialkylamino Alkyl Esters of N-Sucstited Alpha, Beta-Dehydro-Amino Acids (V. O. Tcpuzyan, D. A. Gerasimyan, et al.; KHIMIKO-FARMATSEVTICHESKIY ZHURNAL, No 6, Jun 86).....	54
Computer-Assisted Analysis of Large Number of Compounds Which Possess Psychotropic Activity. Part 7. Use of Molecular Descriptors for Recognizing Kind of Psychotropic Activity (A. S. Kabankin, A. P. Bondareva, et al.: KHIMIKO-FARMATSEVTICHESKIY ZHURNAL, No 6, Jun 86).....	54
Radiation-Chemical Conversions in Monocarboxycellulose Derivatives Exposed to Ionizing Radiation in Doses Up to 5 Mrads (B. G. Yasnitskiy, V. A. Oridoreza, et al.: FARMATCIYA: No 3, May-Jun 85).....	55

Gas Chromatographic Determination of Arpenal and Gangleron (F. D. Dauletbaeva, M. K. Starchevskiy, et al.; FARMATSIYA, No 3, May-Jun 85).....	55
Effect of Ethimizol on Neuromuscular Synapse of Frog (T. M. Drabkina, M. G. Dobretsov; NEYROFIZIOLOGIYA, No 6, Nov-Dec 85).....	56
Ultrastructural Localization of Apamin Binding Sites on Guinea Pig Intestinal Smooth Muscle (S. V. Vasilenko, S. V. Komissarenko, et al.; NEYROFIZIOLOGIYA, No 6, Nov-Dec 85).....	56
Mechanism of Initial Stage of Ionol Biotransformation (I. A. Degterev, A. A. Buzukov, et al.; KHIMIKO- FARMATSEVTICHESKIY ZHURNAL, No 7, Jul 86).....	57
Analysis of Structure-Activity Connection on Basis of Principle of Structural Correspondence Within Framework of Receptor Lattice Model (V. Ye. Kuzmin, S. V. Krutius; KHIMIKO-FARMATSEVTICHESKIY ZHURNAL, No 7, Jul 86).....	58
Simulating Inhibiting Activity of Baker's Triazines on Basis of Structural Correspondence Principle (S. V. Krutius, V. Ye. Kuzmin; KHIMIKO-FARMATSEVTICHESKIY ZHURNAL, No 7, Jul 86).....	58
Imadazole-4[5]-Carboxylic Acid Amides. Effect on Memory and Learning Processes (L. B. Piotrovskiy, M. A. Dumpis, et al.; KHIMIKO- FARMATSEVTICHESKIY ZHURNAL, No 7, Jul 86).....	59
Biological Activity of 1-Aroxysilatrans and 1-Aroxysilatran-3- Ones (V. B. Kazimirovskaya, L. A. Mansurova, et al.; KHIMIKO-FARMATSEVTICHESKIY ZHURNAL, No 7, Jul 86).....	59
Synthesis and Study of Radio-Protective Properties of Sulfur- Containing Derivatives of Natural Purine Metabolites (G. N. Krutovskikh, G. F. Gornayeva, et al.; KHIMIKO-FARMATSEVTICHESKIY ZHURNAL, No 7, Jul 86).....	60
Synthesis and Biological Activity of Derivatives of Carboxylic Acids, Having Sulfur-Containing Groups in Beta-Position (V. V. Znamenskiy, A. D. Yefremov, et al.; KHIMIKO-FARMATSEVTICHESKIY ZHURNAL, No 7, Jul 86).....	61
Purposeful Variation of Dimensions of Nanoparticles--Cylindri- cular Carriers of Active Substances (Ye. G. Matveyeva, E. V. Shtykova, et al.; KHIMIKO- FARMATSEVTICHESKIY ZHURNAL, No 7, Jul 86).....	61

PHYSIOLOGY

- Effect of Vasopressin and Oxytocin on Background Activity
of Dorsal Horn Cells From Isolated Newborn Rat Spinal Cord
(Z. A. Tamarova; NEYROFIZIOLOGIYA, No 3, May-Jun 85)..... 63
- Influence of Vasopressin and Oxytocin on Evoked Activity of
Dorsal Horn Cells in Isolated Segment of Newborn Rat
Spinal Cords
(Z. A. Tamarova; NEYROFIZIOLOGIYA, No 5, Sep-Oct 85)..... 64
- Morphological and Functional Organization of Brain as
Material Substrate of Probability Prediction
(D. A. Shiyayev, I. R. Kalva; IZVESTIYA AKADEMII
NAUK LATVIYSKOY SSR, No 6, Jun 86)..... 65
- Interrelationship Between Psychophysiological Characteristics
of Probability Prediction and Functional Asymmetry in Humans
(V. N. Yanson, Z. F. Dayya, et al.; IZVESTIYA
AKADEMII NAUK LATVIYSKOY SSR, No 6, Jun 86)..... 65
- Physiological Significance of Changes in Human Brain Discharge
Frequency During Single Mental Events
(N. P. Bekhtereva, Yu. L. Gogolitsyn, et al.; DOKLADY
AKADEMII NAUK SSSR, No 5, Aug 86)..... 66
- Background and Evoked Electrical Activity of Septal and
Hippocampal Transplants in Rat Neocortex
(A. G. Bragin, O. S. Vinogradova; NEYROFIZIOLOGIYA,
No 2, Mar-Apr 85)..... 67
- Patterns of Electrical Activity of Thin Slices of Guinea Pig
Neocortex in Vitro
(S. V. Karnup, A. T. Bortnik, et al.; NEYROFIZIOLOGIYA,
No 4, Jul-Aug 85)..... 67
- Effects of Individual and Combined Application of Neuro-
transmitters on Ultrastructure of Rat Brain Synapses
(B. I. Kotlyar, G. G. Khudova, et al.;
NEYROFIZIOLOGIYA, No 4, Jul-Aug 85)..... 68
- In Vitro Effects of Opioid Peptides on Nervous Tissue
(O. B. Ilyinskiy, M. V. Kozlova, et al.;
NEYROFIZIOLOGIYA, No 4, Jul-Aug 85)..... 69

PUBLIC HEALTH

- Improving Quality of Sterile Drugs Prepared in Pharmacies
(V. V. Karchevskaya, I. V. Besedina, et al.;
FARMATSIYA, No 3, May-Jun 85)..... 70

Hearing Aids in Children With Impaired Hearing (G. S. Lyakh, A. S. Rozenblyum; ZHURNAL USHNYKH, NOSOVYKH I GORLOVYKH BOLEZNEY, No 5, Sep-Oct 85).....	79
Delayed Development and Production of Infant Formulas (E. Pashina; NARODNOYE KHOZYAYSTVO KAZAKHSTANA, No 9, Sep 86).....	80
Creation of Regional Health Centers (A. Nemov; SOVETSKAYA ROSSIYA, 15 Oct 86).....	80
Nutritional Factors and Gall Bladder Disease in Rural Population of Latvian SSR (L. Yu. Zhikhar, N. A. Skuya; VOPROSY PITANIYA, No 4, Jul-Aug 86).....	81
Administration of Drug Supply Based on Organization of Associations (D. S. Volokh; FARMATSIYA, No 3, May-Jun 85).....	81
Development of Complex Planning and Financial Tasks of Automated "Central Pharmacy-Patent Administration Subsystem" (L. V. Borisenko, V. F. Martynenko, et al.; FARMATSIYA, No 3, May-Jun 85).....	82
Organizational Improvement of Mother and Child Drug Service (V. M. Tolochko, A. G. Omelchenko; FARMATSIYA, No 3, May-Jun 85).....	83
Actual Nutrition and Some Health Status Indices Among Urban School Children in Several Regions of Ukraine (L. A. Mostovaya, L. D. Kamysheva, et al.; VOPROSY PITANIYA, No 1, Jan-Feb 86).....	83
Hygienic Approaches to Rational Nutrition of Students in Soviet North (V. M. Krasnopevtsev; VOPROSY PITANIYA, No 1, Jan-Feb 86)...	84
CONFERENCES	
All-Union Scientific-Practical Seminar 'State of Industrial Production of Microfiltration Membranes and Their Use in Various Branches of National Economy' (I. V. Besedina, A. V. Griboyedova; FARMATSIYA, No 3, May-Jun 85).....	85
Second All-Union Conference on Neurosciences (L. L. Vorchinin; NEYROFIZIOLOGIYA, No 6, Nov-Dec 85).....	86

MISCELLANEOUS

- Modulation of Mechanical Characteristics of Natural and
Synthetic Composites
(A. A. Krauklis, A. P. Dreymanis; IZVESTIYA AKADEMII
NAUK LATVIYSKOY SSR, No 6, Jun 86)..... 87
- Use of Tracking Radiotransmitters in Studies of Animal
Activity
(V. Ye. Sokolov, V. P. Sukhov; ZOOLOGICHESKIY
ZHURNAL, No 4, Apr 86)..... 87
- Experience in Breeding Caucasian Viper (*Vipera Kaznakowi*)
in Captivity
(A. T. Boznanskiy, S. V. Kudryavtsev; VESTNIK
ZOLOGII, No 3, May-Jun 86)..... 88

JPRS-UBB-87-005

19 FEBRUARY 1987

USSR Report

LIFE SCIENCES

BIOMEDICAL AND BEHAVIORAL SCIENCES

TABLES OF CONTENTS

JPRS-UBB-86-001, 2 JANUARY 1986-

JPRS-UBB-86-022, 5 DECEMBER 1986

FBIS

FOREIGN BROADCAST INFORMATION SERVICE

10 MARCH 1987

**USSR REPORT
LIFE SCIENCES
BIOMEDICAL AND BEHAVIORAL SCIENCES**

CONTENTS

AEROSPACE MEDICINE

- Study of Muscle Bioenergetics in Weightlessness
(E.S. Mailyan, E.A. Kovalenko, et al.; PATOLOGICHESKAYA
FIZIOLOGIYA I EKSPERIMENTALNAYA TERAPIYA, No 5, Sep-Oct
85)..... 1

AGROTECHNOLOGY

- Institutions of Ukrainian SSR Academy of Sciences Research on
Plant Growth Regulators with Agricultural Applications
(V.P. Kukhar, L.M. Markovskiy, et al.; VISNYK AKADEMIYI
UKRAYINSKOYI RSR, No 9, Sep 86)..... 8

BIOCHEMISTRY

- Neurotoxins as Probes in Studies on Ion Channels
(O.A. Kryshnal, N.G. Gimmelreykh; VISNYK AKADEMIYI
NAUK UKRAYINSKOYI RSR, No 4, Apr 86)..... 9
- Isolation of Pure-Forming Protein from Outer Membrane of Yersinia
Pseudotuberculosis and Studies of its Effects on Bilayer Lipid
Membrane Conductance
(G.N. Likhatskaya, O.D. Novikova, et al.; BIOLOGICHESKIYE
MEMBRANY, No 12, Dec 85)..... 11

BIOPHYSICS

- Effects of Various N-Cholinomimetics on Behavior of Cl⁻-
Selective Ion Channels of Neural Membranes
(T.T. Ivanova, V.I. Ilyin, et al.; DOKLADY AKADEMII
NAUK SSSR, No 5, Oct 86) 12

BIOTECHNOLOGY

- Cytolar, Microcarriers for Cultivation of Surface-Dependent
Cells
(V.P. Grachev, M.A. Zavalnyy, et al.; VOPROSY
VIRUSOLOGII, No 6, Nov-Dec 85) 13
- Production of Ascitic Preparations of Monoclonal Antibodies
(A.S. Novokhatkiy, I.V. Malakhova, et al.; VOPROSY
VIRUSOLOGII, No 6, Nov-Dec 85) 13
- Possibility of Utilizing Cryptococcus and Lipomyces Yeast for
Production of Glucuron-Containing Polysaccharide
(I.F. Ventinya, A.Ya. Ozola, et al.; IZVESTIYA AKADEMII
NAUK LATVIYSKOY SSR, No 7, Jul 86) 14

ENVIRONMENT

- Nuclear Power Effects on Global Health
(G. Ivanitskiy; LENINGRADSKAYA PRAVDA, 22 Oct 86) 15

EPIDEMIOLOGY

- Hemorrhagic Fever in USSR
(D.I. Drankin; STEPNEYYE PROSTORY, No 9, Sep 86) 16
- Current Status of Malaria in Turkmen SSR
(O. Mamedniyazov, Z.I. Maziashvili, et al.;
ZDRAVOOKHRANENIYE TURKMENISTANA, No 7, Jul 85) 17
- Influenza Epidemic of 1983 in Dushanbe
(G.I. Fedorova, L.P. Gurachevskaya, et al.; VOPROSY
VIRUSOLOGII, No 6, Nov-Dec 85) 17

GENETICS

- Integration of Various Plasmids into Bacillus Subtilis Chromosome
(F.K. Khasanov, V.I. Bashkirov, et al.; GENETIKA, No 10,
Oct 85) 18
- Interaction of Genetic and Environmental Components in Determining
Activity of Tryptophan Hydroxylase Activity in Brain of Mice
Under Stress
(A.V. Kulikov, L.A. Koryakina, et al.; GENETIKA, No 10,
Oct 85) 19

Genetic Principles of Triticale Creation. Part 3. Dynamics of Cytogenetic Stabilization and Formation of Productivity Traits of Plants in Early Generations (F_1-F_5) of Triticale Plants (I.A. Gordey, G.M. Gordey; GENETIKA, No 10, Oct 85).....	19
Selection-Genetic Analysis of Productivity of Oat Hybrids (N.A. Kalashnik, V.A. Portyanko, et al.; GENETIKA, No 10, Oct 85).....	20
Novel Approach to Creating Chromosomal Libraries Using X-Chromosome Model (M.V. Lavrentyeva, M.I. Rivkin, et al.; DOKLADY AKADEMII NAUK SSSR, No 4, Oct 86).....	21
Biochemical Description of Inbred Corn Lines Used in Soviet Breeding Programs (Ye.V. Levites, L.Ye. Monastyreva, et al.; DOKLADY AKADEMII NAUK SSSR, No 4, Oct 86).....	21
Demethylation of rDNA in Barley Callus Cultured in Vitro (Ts.D. Khvyrleva, M.V. Ryzhik, et al.; DOKLADY AKADEMII NAUK SSSR, No 5, Oct 86).....	22
Nuclear Genome Activity Regulation and Bioelectric Characteristics of Chromatin and Cell Nuclei (V.G. Shakhbazov, Yu.C. Shkorbatov, et al.; DOKLADY AKADEMII NAUK SSSR, No 5, Oct 86).....	22
Acinetobacter Sp. Resistance to HgCl₂ (O.L. Lomovskaya, S.Z. Mindlin, et al.; GENETIKA, No 12, Dec 85).....	23
Biochemical Polymorphic Systems Among Immigrant Population in North-Eastern USSR. Part 4: Genetic Structure Characteristics of Individuals with Chronic Pathological Processes (L.L. Solovenchuk; GENETIKA, No 12, Dec 85).....	24
HLA System Antigens Distribution Among Population of Carpathian Genogeographic Zone of UkrSSR (L.I. Timoshenko, Ye.N. Bay, et al.; GENETIKA, No 21, Dec 85)	24
Genetic Heterogeneity and Clinical Polymorphism of Thalassemia in Georgian SSR Population (I.G. Mestiashvili, V.M. Natvlishvili, et al.; SOOBSHCHENIYA AKADEMII NAUK GRUZINSKOY SSR, No 2, May 86).....	25
Cloning and Characterization of Recombinant DNAs Containing Repetitive Elements of Barley Genome: Identification of Individual Actively-Transcribing Repetitive Families (M.I. Prosnjak, N.A. Kartel, et al.; GENETIKA, No 11, Nov 85).....	25

Cytogenetic Analysis of Hexaploid Triticale Forms Crossed with Common Wheat (Ye.D. Badayeva, N.S. Badayev, et al.; GENETIKA, No 11, Nov 85).....	26
Induction of Mitotic Crossing-Over and Somatic Mutations in Soybeans Exposed to Neutrons (0.8MeV) in Comparison to Gamma Irradiation (I.D. Davronov, I.A. Zakharov; GENETIKA, No 11, Nov 85).....	27
Starting Material and its Genetic Basis in Selection of Winter Wheat Towards Resistance to Mildew Under Conditions Prevailing in Southern Ukraine (L.T. Babayants, S. Ts. Smilyanets, et al.; GENETIKA, No 11, Nov 85).....	27
IMMUNOLOGY	
Antigen Specific Transfer Factor from Mice Immunized with Attenuated Flavivirus: Intensification of Inducing Activity in Semipurified Splenocyte Dialysates (V. Mayer, E. Gajdosova, et al.; ACTA VIROLOGICA, No 1, Jan 85).....	28
Physical-Chemical and Biological Properties of Human Placental Amniotic Interferon (V.I. Bakhutashvili, D.G. Merabishvili, et al.; VOPROSY VIRUSOLOGII, No 6, Nov-Dec 85).....	29
Comparative Study of Antiviral Activity of Natural Double-Stranded RNA in Experimental Tick-Borne Encephalitis (M. Yu. Knoroz, O.M. Popova, et al.; VOPROSY VIRUSOLOGII, No 6, Nov-Dec 85).....	29
Serologic Characteristics of KAMA-51 Monoclonal Antibodies to Tick-Borne Encephalitis Virus (S. Ya. Gaydamovich, Ye. E. Metnikova, et al.; VOPROSY VIRUSOLOGII, No 6, Nov-Dec 85).....	30
INDUSTRIAL MEDICINE	
Briefs Rapid Test for Human Heat Tolerance	31
LASER BIOEFFECTS	
Effects of Laser Radiation on Seeds (T.K. Gordiyenko, V.R. Kononchuk, et al.; BIOLOGICHESKIYE NAUKI, No 9, Sep 86).....	32

MEDICINE

- Computer-Aided Surgery in USSR
(TASS, 23 Oct 86)..... 33
- Devices and Diagnostic Capabilities for Ultrasonic Dopplerography
of Cerebral Vessels
(G.I. Eninya, V. Kh. Robule, et al.; IZVESTIYA AKADEMI
NAUK LATVIYSKOY SSR, No 7, Jul 86)..... 34
- Physiological Characteristics of Diadynamophoresis of Papaine
(L.A. Matinyan, Kh. O. Nagapetyan, et al., DOKLADY
AKADEMII NAUK ARMYANSKOY SSR, No 5)..... 35
- Medical Engineering Advancements at Saratov Institute
(N. Ivanov; PRAVDA, 31 Oct 86)..... 35

MICROBIOLOGY

- Desulfurococcus Amyloyticus N.SP.: New Species of Extremely
Thermophilic Archaeabacterium from Thermal Springs
(Ye.A. Bonch-Osmolovskaya, A.I. Slesarev, et al.;
DOKLADY AKADEMII NAUK SSSR, No 5, Oct 86)..... 37
- Contamination of Cell Cultures with Mycoplasmas: Methods of
Detecting and Possible Means of Spreading of Mycoplasma
Infection
(T.D. Smirnova, I.I. Fridlanskaya; TSITOLOGIYA, No 3,
Mar 85)..... 38

MILITARY MEDICINE

- Body Oxygen Status in Replacement of Acute Blood Loss by Dextran
(Polyglucin) in Normo- and Hyperoxic Conditions
(V.S. Yarochkin, O.P. Volos, et al.; PATOLOGICHESKAYA
FIZIOLOGIYA I EKSPERIMENTALNAYA TERAPIYA, No 5, Sep-Oct 85).. 39

MOLECULAR BIOLOGY

- Research in Transport RNA Function
(A. Mirzabekov; PRAVDA UKRAINY, 24 Sep 86)..... 40

NONIONIZED ELECTROMAGNETIC RADIATION EFFECTS

- Effect of 'Magnetized' Saline Solution on Number of Leukocytes
in Guinea Pigs
(M.A. Bregadze; SOOBSHCHENIYA AKADEMII NAUK GRUZINSKOY
SSR, No 2, May 86)..... 41

PHARMACOLOGY AND TOXICOLOGY

- Ultraviolet Spectrometric Analysis of Isonitrosine
(Yu.A. Yershov, L.Ye. Priyerezheva, et al.; FARMATSIYA,
No 4, Jul-Aug 85)..... 42
- Effects of Chlorophos on Brain Levels of Acetylcholinesterase in
Perch (*Perca Fluviatilis*)
(V.I. Kozlovskaya, G.M. Chuyko; GIDROBIOLOGICHESKIY
ZHURNAL, No 5, Sep-Oct 85)..... 45
- Enterofar--Naturally-Occurring Protective Agent Against Food Toxins
(V. Mikhaylov; SOVETSKAYA LITVA, 27 Nov 86)..... 46
- Derivatives of Benzo(s)Fluorene. Part 6: Antiviral and Interferon
Inducing Activities in Mice after Administration of Three Benzo(s)
Fluorenone Derivatives
(F. Smejkal, D. Zelena, et al.; ACTA VIROLOGICA, No 1,
Jan 85)..... 46
- Effects of Oxytocin on Anterior Hypothalamic Neurons in Rats with
Induced Neurosis
(M.M. Rasulov; PATOLOGICHESKAYA FIZIOLOGIYA I
EKSPERIMENTALNAYA TERAPIYA, No 5, Sep-Oct 85)..... 47

PHYSIOLOGY

- Sonoluminescence Level of Arterial and Venous Blood Plasma in
Experimental Myocardial Infarction
(T.A. Adzhimolayev, Sh.E. Atakhanov, et al.;
PATOLOGICHESKAYA FIZIOLOGIYA I EKSPERIMENTALNAYA TERAPIYA,
No 1, Jan-Feb 85)..... 48
- Information Recall Features in Human Stage 2 Sleep
(Ye.K. Arons, V.M. Vasilyeva, et al.; BIOLOGICHESKIYE
NAUKI, No 9, Sep 86)..... 49
- Barium Current Through Calcium Channels in Nerve Cell Membrane on
Molluscs: 'Inactivation' of Channels
(P.G. Kostyuk, A. Ye. Martynyuk, et al.; BIOLOGICHESKIYE
MEMBRANY, No 12, Dec 85)..... 49
- New Class of Ca^{2+} -Dependent Potassium Channels in Human T-
Lymphocyte Membranes
(P.D. Bregestovskiy, A. Ye. Redkozubov, et al.;
BIOLOGICHESKIYE MEMBRANY, No 12, Dec 85)..... 50
- Individual High Conductance Chloride Channels in Mouse Peritoneal
Macrophage Membranes
(A.A. Galkin, A.A. Malyaev; BIOLOGICHESKIYE MEMBRANY,
No 12, Dec 85)..... 51

Effects of Enkephalins on Morphological and Endocrine Manifestations of Stress (Yu.B. Lishmanov, T.I. Lisina; PATOLOGICHESKAYA FIZIOLOGIYA I EKSPERIMENTALNAYA TERAPIYA, No 5, Sep-Oct 85)..	51
Effects of Auricular Electrostimulation of Myelopeptide Production and Responsiveness of Blood Cells to Immobilization Stress (A.M. Vasilenko, L.A. Zakharova, et al.; PATOLOGICHESKAYA FIZIOLOGIYA I EKSPERIMENTALNAYA TERAPIYA, No 5, Sep-Oct 85)..	52
Human Sensitivity to Hypoxia and Hypercapnia as Indicator of Individual Reactivity (T.V. Serebrovskaya; PATOLOGICHESKAYA FIZIOLOGIYA I EKSPERIMENTALNAYA TERAPIYA, No 5, Sep-Oct 85).....	52
PUBLIC HEALTH	
Enhancing Response of Pharmacy Services to Tasks Set by 27th CPSU Congress (M.A. Klyuyev; FARMATSIYA, No 3, May-Jun 86).....	53
Problems in Drug Supply (V. Merkulov; KOMMUNIST TADZHIKISTANA, 9 Sep 86).....	64
Briefs	
Computerization of Children's Hospital	69
Sociological Studies of Demand for Drugs (S.G. Sboyeva, L.A. Sukhanova, et al.; FARMATSIYA, No 3, May-Jun 86).....	70
Organization of Operation of All-Union Research Institute of Pharmacy Pharmacies for Provision of Free and Cut-Rate Drugs and Medicine (Z.T. Yakunina; FARMATSIYA, No 3, May-J-n 86).....	70
Statistical Study of Length of Service of Young Pharmacists Specialists (V.L. Bazarnyy, I.M. Razdorskaya; FARMATSIYA, No 3, May-Jun 86).....	71
Goals of Moscow Health Plan (I. Krasnopolskaya; MOSKOVSKAYA PRAVDA, 28 Oct 86).....	72
Health Program in Siberia (D.A. Potashov; ZEMLYA SIBIRSKAYA-DALNEVOSTOCHNAYA, No 8, Aug 86).....	72

Organizing Supply of Medical Goods to Pharmacies in RSFSR (M. Ye. Voloshin, A.D. Apazov, et al.; FARMATSIYA, No 5, Sep-Oct 86).....	73
Influence of Scientific and Technical Progress on Development of Fundamental Work in Area of Pharmaceutical Synthesis and its Introduction to Practice (N.M. Turkyevich; FARMATSIYA, No 5, Sep-Oct 86).....	73
Use of Computer Equipment in Planning of Tasks for Pharmaceutical Establishments (L.V. Koretskaya, V.I. Krikov; FARMATSIYA, No 1, Jan-Feb 86). .	74
Linguistic Support of Lekarstvo Automated Information Retrieval System (L.V. Moshkova; FARMATSIYA, No 1, Jan-Feb 86).....	75
Pharmaceutical Information Offices in Azerbaijan (N.M. Naibov, A.I. Rustamov; FARMATSIYA, No 1, Jan-Feb 86)... .	75
Computers in Emergency Medical Service--Skoraya Pomoshch (V. Korneyev; IZVESTIYA, 25 Oct 86).....	76
Electroanalgesia Research Discontinued (A. Pankov; TRUD, 29 Oct 86).....	76
Botulism From Home Canned Foods (M. Zamanov; KOMMUNIST TADZHIKISTANA, 4 Sep 86).....	77
CONFERENCES	
Gerontology Conference in Kiev (PRAVDA UKRAINY, 16 Oct 86).....	78

JPRS-UBB-87-007

31 MARCH 1987

USSR REPORT
LIFE SCIENCES
BIOMEDICAL AND BEHAVIORAL SCIENCES

CONTENTS

AGROTECHNOLOGY

- Synthetic Plant-Growth Regulators
(O. Frantsen; PRAVDA, 27 Nov 86)..... 1

BIOCHEMISTRY

- Synthesis and Properties of Affinity Adsorbent for Purification
of Various Neuraminidases
(A.N. Poltorak, S.V. Martyushin, et al.;
PRIKLADNAYA BIOKHIMIYA I MIKROBIOLOGIYA,
No 3, May-Jun 85)..... 2
- Isolation and Study of Some Properties of Hemagglutinins
Produced by Actinomycetes Streptomyces Badius
(O.A. Belyayev, G.Ye. Grinberg, et al.;
PRIKLADNAYA BIOKHIMIYA I MIKROBIOLOGIYA,
No 3, May-Jun 85)..... 3
- Conditions of Formation of Porphyrins by Propionic
Acid Bacteria
(O.V. Polulyakh, N.I. Zaitseva, et al.;
PRIKLADNAYA BIOKHIMIYA I MIKROBIOLOGIYA,
No 2, Mar-Apr 85)..... 4
- Biospecific Adsorption Chromatography of Phospholipase A₂
From Various Sources
(M.M. Rakhimov, R. Akhmedzhanov, et al.;
PRIKLADNAYA BIOKHIMIYA I MIKROBIOLOGIYA,
No 2, Mar-Apr 85)..... 4

Study of Adsorption of Spin-Labeled Flocculants on E. Coli Cells (N.I. Kuptsova, N.V. Nikitin, et al.; PRIKLADNAYA BIOKHIMIYA I MIKROBIOLOGIYA, No 5, Sep-Oct 85).....	5
Coupling of Propionaldehyde to Large-Pore Glass Surface (Ye.A. Glazunov, V.M. Chernayenko; PRIKLADNAYA BIOKHIMIYA I MIKROBIOLOGIYA, No 4, Jul-Aug 85).....	6
Bioactive Substances of Botrytis Cinerea (Literature Review) (M.V. Filimonova; PRIKLADNAYA BIOKHIMIYA I MIKROBIOLOGIYA, No 6, Nov-Dec 85).....	6
Immobilization of Glucose Oxidase in Polyacrylamide Coating Formed by Electrochemical Initiation of Polymerization (L.S. Tikhonova, O.A. Belozerova, et al.; PRIKLADNAYA BIOKHIMIYA I MIKROBIOLOGIYA, No 6, Nov-Dec 85).....	7
Amperometric Sensor for Enzyme Immunoassay (D.M. Ivnitskiy, B.B. Dzantiyev, et al.; PRIKLADNAYA BIOKHIMIYA I MIKROBIOLOGIYA, No 6, Nov-Dec 85).....	7
Immobilization of Anabasine-Oxidizing Microorganism Pseudomonas Indigofera (N.A. Aytkhozhina, S.K. Dolobayeva, et al.; PRIKLADNAYA BIOKHIMIYA I MIKROBIOLOGIYA, No 1, Jan-Feb 86).....	8
Bioluminescent Assay of ATP in Flow Column Reactor With Immobilized Firefly Luciferase (Ye.I. Belyayeva, L.Yu. Brovko, et al.; PRIKLADNAYA BIOKHIMIYA I MIKROBIOLOGIYA, No 1, Jan-Feb 86).....	8
Serial N-Terminal Analysis of Peptides at Picomole Level With Fluorimetric Detection of Dns-Amino Acids (N.B. Levina, Kh.G. Muradov, et al.; BIOORGANICHESKAYA KHIMIYA, No 2, Feb 86).....	9
Automated Synthesis of Oligodesoxyribonucleotides Part 3. Study of Supports Based on Silica Gels 'Silokhrom' and 'Silipor' (A.I. Lomakin, S.I. Yastrebov, et al.; BIOORGANICHESKAYA KHIMIYA, No 2, Feb 86).....	9

Study of Complementary Addressed Alkylation of Oligodesoxyribonucleotides 2',3'-O-[4-[N-(2-Chloroethyl)-N-Methylamino]Benzylidene Derivatives Having Short Oligonucleotide Address	10
(D.G. Knorre, I.V. Kutyavin, et al.; BIOORGANICHESKAYA KHIMIYA, No 2, Feb 86).....	10
Complementary Addressed Modification and Splitting of Single-Stranded DNA Fragment With Aid of Alkylating Derivatives of Oligonucleotides	11
(Ye.B. Brosalina, V.V. Vlasov, et al.; BIOORGANICHESKAYA KHIMIYA, No 2, Feb 86).....	11
Association of O-Specific Polysaccharide From Pseudomonas Fluorescens and Antibodies	11
(T.F. Solovyeva, G.A. Naberezhnykh, et al.; BIOORGANICHESKAYA KHIMIYA, No 2, Feb 86).....	11
Mutagenesis Directed by Phosphotriester Analogs of Oligonucleotides	12
(V.A. Petrenko, P.I. Pozdnyakov, et al.; BIOORGANICHESKAYA KHIMIYA, No 2, Feb 86).....	12

BIOTECHNOLOGY

Batch Culture of Microorganisms With Constant Substrate Concentration	13
(N.S. Markvichev, M.N. Manakov; PRIKLADNAYA BIOKHIMIYA I MIKROBIOLOGIYA, No 4, Jul-Aug 85).....	13
Immunoenzyme Techniques for Early Detection of Contaminant Flora in Alkaline Protease Production by <i>Bacillus Subtilis</i>	13
(A.Yu. Karulin, G.G. Orlova, et al.; PRIKLADNAYA BIOKHIMIYA I MIKROBIOLOGIYA, No 4, Jul-Aug 85).....	13
Immunofluorescence Assay in Control of Bacterial Contamination of Culture Liquid During Cultivation of <i>Bacillus Subtilis</i>	14
(G.G. Orlova, M.Ya. Korn, et al.; PRIKLADNAYA BIOKHIMIYA I MIKROBIOLOGIYA, No 1, Jan-Feb 86).....	14

GENETICS

New Generation Hepatitis Vaccine	15
(Yevgeniy Berestov; MOSCOW NEWS, No 50, 21-28 Dec 86).....	15
Preservation of Calf Embryos	17
(TASS, 8 Dec 86).....	17

IMMUNOLOGY

- Studies on Acid Chloroform-Methanol-Soluble Proteins
Isolated From Native Human Leukocyte Interferon
(I.A. Leneva, A.V. Mikheyeva, et al.; ACTA
VIROLOGICA, No 6, Nov 85)..... 18

MEDICINE

- Joint Lubricant Additive
(Yu. Drize; TEKHNIKA I NAUKA, No 10, Oct 86)..... 19
- Preventing Delirium Tremens
(Mikhail Karlov; MOSCOW NEWS, No 5, 21-28 Dec 86)..... 21
- New Hip Prosthesis
(SOVETSKAYA LITVA, 26 Nov 86)..... 24

MICROBIOLOGY

- Process of Development of Viral-Infection Complications
(M. Alekseyev; SOTSIALISTICHESKAYA INDUSTRIYA,
13 Oct 86)..... 25
- Synthesis of Tyrosine and 3,4-Dihydroxyphenylalanine
From Lactic Acid by Citrobacter Freundii
(M.B. Kupletskaya; PRIKLADNAYA BIOKHIMIYA I
MIKROBIOLOGIYA, No 3, May-Jun 85)..... 26
- Effect of Benzohydrothiochromilium Salts on the Membrane
Apparatus of Bacteria
(R.T. Kutsemako, V.A. Yermachenko, et al.;
PRIKLADNAYA BIOKHIMIYA I MIKROBIOLOGIYA,
No 3, May-Jun 85)..... 26
- Enzymatic Synthesis of L-Dihydroxyphenylalanine by Free
and Immobilized Citrobacter Freundii Cells
(K.I. Voyvodov, I.V. Tysyachnaya, et al.;
PRIKLADNAYA BIOKHIMIYA I MIKROBIOLOGIYA,
No 2, Mar-Apr 85)..... 27
- Continuous Cultivation of Thermophilic Methanogenic
Associations
(Chan Dinh Toai, S.D. Varfolomeyev, et al.;
PRIKLADNAYA BIOKHIMIYA I MIKROBIOLOGIYA, No 2,
Mar-Apr 85)..... 28
- Extracellular Carbohydrate-Containing Products of Methylococcus
Thermophilus
(Yu.R. Malashenko, T.A. Grinberg, et al.;
PRIKLADNAYA BIOKHIMIYA I MIKROBIOLOGIYA, No 5,
Sep-Oct 85)..... 28

Sedimentation Analysis of RNA Separated From Interfering Particles of Lassa and Machupo Viruses (I.S. Lukashevich, N.M. Trofimov; ACTA VIROLOGICA, No 6, Nov 85).....	29
Dehydrogenase Activities of Oil-Degrading Microorganisms (A.N. Bobkova, E.P. Tarkhova; PRIKLADNAYA BIOKHIKIYA I MIKROBIOLOGIYA, No 4, Jul-Aug 85).....	30
Transformation of Manganese Oxides by Achromobacter During Manganese Ore Leaching (Yu.S. Babenko, M.Z. Serebryanaya; PRIKLADNAYA BIOKHIKIYA I MIKROBIOLOGIYA, No 4, Jul-Aug 85).....	30
Use of Thiobacillus Ferrooxidans for Separation of Mercury and Antimony Sulfides by Flotation (N.N. Lyalikova, L.L. Lyubavina; PRIKLADNAYA BIOKHIKIYA I MIKROBIOLOGIYA, No 4, Jul-Aug 85).....	31
MILITARY MEDICINE	
Military Surgical Studies (Ye. Agapova; KRASNAYA ZVEZDA, 2 Oct 86).....	32
MOLECULAR BIOLOGY	
Neuropeptides in Development of New Drugs (B. Lyanov; MOSKOVSKAYA PRAVDA, 14 Sep 86).....	33
Deletion of Late Prophage λ Genes (N.I. Matviyenko, I.N. Troyanovskaya; MOLEKULYARNAYA BIOLOGIYA, No 6, Nov-Dec 85).....	34
Construction of Vectors For Cloning of DNA Regulator Elements (V.I. Kiselev, V.O. Rechinskiy, et al.; MOLEKULYARNAYA BIOLOGIYA, No 6, Nov-Dec 85).....	35
Study of Structure of Metal-Bonding Centers of Calmodulin by EXAFS Spectroscopy (A.A. Vazina, A.F. Korystova, et al.; MOLEKULYARNAYA BIOLOGIYA, No 6, Nov-Dec 85).....	35
Chemical and Enzymatic Synthesis of Oligoribonucleotides and Their Applications (D.G. Knorre, A.G. Venyaminova; MOLEKULYARNAYA BIOLOGIYA, No 6, Nov-Dec 85).....	36

PUBLIC HEALTH

Poor Utilization of Foreign Equipment and Drugs (I. Vasilyev; PRAVDA, 15 Jan 87).....	37
Computer-Assisted Electrocardiograms (B. Pipiya; PRAVDA, 18 Nov 86).....	40
Medical Engineering (A. Orlov; NTR: PROBLEMY I RESHENIYA, No 21, 4-17 Nov 86).....	41
Computer Programmers in Polyclinics (Ye. Kolesnikova; SOTSIALISTICHESKAYA INDUSTRIYA, 12 Nov 86).....	41
Competition of Pediatric Neurology Textbook for USSR State Prize (A. Konovalov; V. Tabolin; PRAVDA, 16 Aug 86).....	42
Health Goals for Kirghizia (A. Ilin; SOVETSKAYA KIRGIZIYA, 23 Sep 86).....	43
Health Program at Moscow Plant (S. Medvezhko; IZVESTIYA, 13 Nov 86).....	43
Assessment of Saturday and Sunday Medical Clinic Services (Shota Gvinianidze, Tsiala Barnova, et al.; ZARYA VOSTOKA, 23 Oct 86).....	44

RADIATION BIOLOGY

Radiobiology in Agriculture: New Possibilities (Alexander Kuzin; ADVANCES OF SCIENCE & TECHNOLOGY, No 21, 5 Nov 86).....	45
--	----

CONFERENCES

Soviet-Italian Pharmacology Symposium (PRAVDA VOSTOKA, 25 Oct 86).....	48
---	----

MISCELLANEOUS

Pharmaceutical Industry Exhibition in Moscow (Valeriy Bykov; MEZHDUNARODNNYE I INOSTRANNYYE VYSTAVKI V SSSR: INFORMATSIONNYY SBORNIK, No 28, 1986)....	49
Medical Applications of Computers and Microprocessors (ELORG INFORMATION, No 2, 1986).....	52

/13046

JPRS-UBB-87-008

27 APRIL 1987

USSR REPORT
LIFE SCIENCES
BIOMEDICAL AND BEHAVIORAL SCIENCES

CONTENTS

AEROSPACE MEDICINE

Nitrogen's Biological Effect on Oxygen Transport Through Hematoparenchymal Barrier (V.A. Berezovskiy, V.I. Nosar; FIZIOLOGICHESKIY ZHURNAL, No 6, Nov-Dec 85).....	1
Desynchronization of Heart Rate and Breathing Frequency After Transmeridional Flight Across Three Time Zones (A.A. Putilov; FIZIOLOGIYA CHELOVEKA, No 6, Nov-Dec 85).....	8
Changes in Blood Conductivity During Immersion (V.G. Kozlova, Ye.A. Aleksandrova; FIZIOLOGIYA CHELOVEKA, No 6, Nov-Dec 85).....	8
Effect of Weak Ultra-Low-Frequency Variable Magnetic Field on Development of Hypercoagulation Syndrome in Rats During Hypodynamia (N.A. Temuryants, A.V. Mikhaylov; BIOFIZIKA, No 6, Nov-Dec 85).....	9

AGROTECHNOLOGY

Effects of Stem Rust Infection of RNAse Activity in Infected Winter Rye Leaves (D.K. Ges, Z.Ya. Serova, et al.; DOKLADY AKADEMII NAUK BSSR, No 12, Dec 86).....	10
--	----

BIOCHEMISTRY

Phosphorylation of m,m'-Dibromodibenzo-18-Crown-6 by Trialkylphosphites (L.N. Markovskiy, V.I. Kalchenko, et al.; ZHURNAL OБSHCHEY KHMII, No 10, Oct 86).....	11
Neurotoxin of Karakurta and Its Interaction With Rat Brain Receptors (Yu.A. Ushkarev, Ye.V. Grishin; BIOORGANICHESKAYA KHIMIYA, No 1, Jan 86).....	11
Synthesis and Studies of Conformationally Restricted Analogs of Peptide Inhibitors of Angiotensin Converting Enzyme (M.P. Filatova, N.A. Krit, et al.; BIOORGANICHESKAYA KHIMIYA, No 1, Jan 86).....	12
Purification of Cattle Diarrhea Virus by Adsorption Chromatography (M.B. Musabekova, V.M. Kolikov; IZVESTIYA AKADEMII NAUK KIRGIZSKOY, No 4, Jul-Aug 86).....	13
Molecular Structure of Dibenzomethylphosphonyl-14-Crown-5 in Crystalline and Soluble States (O.A. Rayevskiy, I.O. Umarova, et al.; IZVESTIYA AKADEMII NAUK SSSR: SERIYA KHIMICHESKAYA, No 9, Sep 86).....	13
Characterization of Phosphodiesterase Specific for RNA-VPg Covalent Bond in Encephalomyocarditis Virus (Yu.F. Drygin, Ye.Yu. Siyanova; BIOKHIMIYA, No 2, Feb 86).....	14
Detection and Localization of Sy-1 Protein in Human Brain (M.V. Aksanova, G.Sh. Burbayeva, et al.; BIOKHIMIYA, No 2, Feb 86).....	14

BIOPHYSICS

Effect of Dioxane Additives on Formation of Compact Structures and Double-Helix Segments in Isoionic DNA Solution (S.M. Filippov, V.A. Prevysh, et al.; BIOFIZIKA, No 6, Nov-Dec 85).....	16
Interaction of Benztryptamines and DNA by Proton Magnetic Resonance With Use of Lanthanide Shift Reagent (T.A. Babushkina, A.M. Vasiliyev, et al.; BIOFIZIKA, No 6, Nov-Dec 85).....	16

Possible Mechanisms of Effect of External Electrostatic Field on DNA Electroconductivity (O.V. Oganesyan, G.G. Artsruni; BIOFIZIKA, No 6, Nov-Dec 85).....	17
Retinal-Sensitized Photooxidation of Rhodopsin (A.V. Starostin, I.B. Fedorovich, et al.; BIOFIZIKA, No 6, Nov-Dec 85).....	17
Putative Mechanism for Changes in Erythrocyte Electrophoretic Mobility During Donor Blood Storage (V.L. Sigal; KOLLOIDNYY ZHURNAL, No 5, Sep-Oct 86).....	18
BIOTECHNOLOGY	
Biotechnology in Petroleum Industry (S. Ismaylova; BAKINSKIY RABOCHIY, 4 Dec 86).....	19
Optimization of Conditions of Production and Regeneration of Protoplasts of Strain Streptomyces Fradiae 3830 Producing Feed Antibiotic Tylosin (I.A. Rodinova, Yu.A. Tyrsin, et al.; ANTIBIOTIKI I MEDITSINSKAYA BIOTEKHNOLOGIYA, No 12, Dec 85).....	19
ENVIRONMENT	
Purity of Underground Waters (Ivan V. Semenov; NAUKA I TEKHNIKA, No 11, Nov 86).....	21
HUMAN FACTORS	
Human Factor in Engineering Work (Emiliya Sergeyevich Chugunova; NAUKA I TEKHNIKA, No 10, Oct 86).....	22
LASER BIOEFFECTS	
Effects of Local Laser Irradiation on Enzymes in Glutamic Acid Pathway in Rat Tissues (A.T. Pikulev, T.N. Zyryanova, et al.; RADIOBIOLOGIYA, No 5, Sep-Oct 85).....	23
MEDICINE	
Therapeutic Electrostimulation in Spinal Cord Injuries (F.A. Gurchin, S.V. Medvedev, et al.; FIZIOLOGIYA CHELOVEKA, No 1, Jan-Feb 86).....	24

MILITARY MEDICINE

- Pathological Anatomical Changes in Rats During Combined
Radiation and Chemical Injury
(V.P. Voytsova; RADIOBIOLOGIYA, No 6, Nov-Dec 85)..... 25

- Comprehensive Brain Studies Based on Computerized Tomography
of Epileptics
(D.Ye. Dyskin; FIZIOLOGIYA CHELOVEKA, No 1,
Jan-Feb 86)..... 31

MOLECULAR BIOLOGY

- Production and Properties of Recombinant DNA Based on
Filamentous Phage-Plasmid Hybrid
(G.R. Titeyeva, Yu.A. Berlin; BIOORGANICHESKAYA
KHIMIYA, No 1, Jan 86)..... 32

NON-IONIZING ELECTROMAGNETIC RADIATION

- Effects of Whole-Body Irradiation With Low-Intensity Microwaves
on Morphological, Functional and Cytochemical Characteristics
of Leukocytes
(M.I. Rudnev, N.M. Gonchar; RADIOBIOLOGIYA, No 5,
Sep-Oct 85)..... 33

PHARMACOLOGY AND TOXICOLOGY

- Effects of Topical Applications of Organophosphorus Pesticide
Phosphamide on Acid-Soluble Collagen in Rat Skin
(Yu.I. Kundiyev, L.G. Aleksandrova, et al.; DOKLADY
AKADEMII NAUK UKRAINSKOY SSR, SERIYA B: GEOLOGICHESKIYE,
KHIMICHESKIYE I BIOLOGICHESKIYE NAUKI, No 10, Oct 86)..... 34

- Antioxidants as Antiarrhythmics
(V.V. Frolikis, R.A. Frolikis, et al.; FIZIOLOGICHESKIY
ZHURNAL, No 1, Jan-Feb 86)..... 35

PHYSIOLOGY

- Vasopressin Role in Motor Function
(T. Chesanova; LENINGRADSKAYA PRAVDA, 24 Nov 86)..... 36

- Diminished Accumulation of Fluorescent Dyes in Cells With
Multiple Drug Resistance
(A.A. Neyfakh, A.Yu. Aleksandrova; DOKLADY AKADEMII
NAUK SSSR, No 4, Dec 86)..... 39

- Reversible Reorganization of Cultivated Cells Cytoskeleton
Induced by 12-O-Tetradecanoylphorbol-13-Acetate
(V.B. Dugina, Yu.M. Vasilyev, et al.; DOKLADY
AKADEMII NAUK SSSR, No 4, Dec 86)..... 40

Comparative Analysis of Changes in Intercentral Brain Interrelationships After Administration of δ-SIP (Delta-Sleep-Inducing Peptide) and ACTH (N.M. Malyshenko, S.I. Kashtanov, et al.; FIZIOLOGICHESKIY ZHURNAL SSSR IMENI I.M. SECHENOVA, No 1, Jan 86).....	40
Effects of Neuroregulators on Hippocampal Synaptic Activity (V.G. Skrebitskiy; USPEKHI FIZIOLOGICHESKIKH NAUK, No 4, Oct-Dec 85).....	41
Current Ideas About Nontraditional Neuroendocrine Stress Mechanisms (V.D. Slepushkin, Yu.B. Lishmanov, et al.; USPEKHI FIZIOLOGICHESKIKH NAUK, No 4, Oct-Dec 85).....	42
Paradoxical Sleep-Protection From Stress (V.S. Rotenberg, V.M. Kovalzon; ENERGIYA: EKONOMIKA, TEKHNIKA, EKOLOGIYA, No 9, Sep 86).....	42
Brain Opiate System and Melanostatin Effects (N.Ye. Chepurnova, V.Ye. Klusha, et al.; FIZIOLOGICHESKIY ZHURNAL SSSR IMENI I.M. SECHENOVA, No 8, Aug 85).....	43
Protein and RNA Levels in Neuronal and Glial Elements of N. Raphe Dorsalis of Ground Squirrel During Hibernation (T.N. Golovina, U.M. Malikov, et al.; FIZIOLOGICHESKIY ZHURNAL SSSR IMENI I.M. SECHENOVA, No 8, Aug 85).....	44
Mechanisms of Early Light and Dark Adaptations (A.B. Kravtsov, S.V. Kulikova; FIZIOLOGICHESKIY ZHURNAL SSSR IMENI I.M. SECHENOVA, No 8, Aug 85).....	44
Status of Microcirculation in High-Altitude Blood Loss (N.D. Umralieyeva; IZVESTIYA AKADEMII NAUK KIRGIZSKOY SSR, No 4, Jul-Aug 86).....	45
Interrelationship of Heart Rhythm Indicators and Resistance to Hypoxia in Antarctic Polar Workers (A.L. Maksimov, T.B. Chernook; IZVESTIYA AKADEMII NAUK KIRGIZSKOY SSR, No 4, Jul-Aug 86).....	46
Effects of Intense, Time-Constrained Mental Effort on Hemodynamics and Cardiovascular Function (B.M. Fedorov, Ye.N. Streletsova, et al.; FIZIOLOGIYA CHELOVEKA, No 1, Jan-Feb 86).....	46
Endogenous Neuropeptides in Control of Brain Motor Function in Normal and Pathologic States (G.A. Vartanyan, Ye.I. Varlinskaya; FIZIOLOGIYA CHELOVEKA, No 1, Jan-Feb 86).....	47

Hypobiosis and Functional Cold Thermoresistance (N.N. Timofeyev; FIZIOLOGIYA CHELOVEKA, No 1, Jan-Feb 86).....	48
Facilitory Effects of Voluntary Movements on Vestibulomotor Reaction (B.N. Smetanin, V.Yu. Shlykov, et al.; FIZIOLOGIYA CHELOVEKA, No 1, Jan-Feb 86).....	48
Human Adaptation to Various Hypercapnic Conditions in Relation to Salivary Electrolyte Dynamics and Renal Function (N.A. Agadzhanyan, A.I. Yelfimov, et al.; FIZIOLOGIYA CHELOVEKA, No 1, Jan-Feb 86).....	49
Protection From Stress (A.L. Rylov; KHIMIYA I ZHIZN, No 7, Jul 86).....	50
Individual Functional Typology of Sympathoadrenal System as Indicator of Physiological Status in Adverse Environments (N.A. Neyzhmakova, L.M. Shafran; FIZIOLOGIYA CHELOVEKA, No 6, Nov-Dec 85).....	50
Geomagnetic Field Effects on Thromboelastographic Indicators in Healthy Individuals (K.P. Omarova, Zh.S. Sundetov, et al.; FIZIOLOGIYA CHELOVEKA, No 6, Nov-Dec 85).....	51
Risk of Hypertension and Functional Cerebral Laterality in Oil Expedition Works in Far North (V.P. Leutin, Ye.I. Nikolayeva; FIZIOLOGIYA CHELOVEKA, No 6, Nov-Dec 85).....	52
Heat Acclimatization Under Controlled Hyperthermia (Yu.A. Ivanov, L.A. Korolev; FIZIOLOGIYA CHELOVEKA, No 6, Nov-Dec 85).....	52
PUBLIC HEALTH	
Public Health Personnel, Facilities and Services in USSR, 1960 Through 1985 (PLANOVYE KHOZYAYSTVO, No 11, Nov 86).....	54
Numbers of Medical Personnel, Facilities and Hospital Beds in Selected Cities of USSR at End of 1985 (VESTNIK STATISTIKI, No 11, Nov 86).....	56
Medical Instrumentation Problems (M.Fedorova; EKONOMICHESKAYA GAZETA, No 2, Jan 87).....	59
Public Opinion on Health Care (A. Chernyak; PRAVDA, 25 Dec 86).....	59

Test Tube Baby Born in Leningrad (T. Chesanova; LENINGRADSKAYA PRAVDA, 5 Dec 86).....	60
Perennial Delays in Production of Cottonseed Protein (L. Shabshay; EKONOMIKA I ZHIZN, No 10, Oct 86).....	60
Future of Heart Transplants (LITERATURNAYA GAZETA, 26 Nov 86).....	60
PSYCHOLOGY	
New Psychophysiological Methods for Stress Reduction (O. Frantsen; PRAVDA, 18 Dec 86).....	62
RADIATION BIOLOGY	
Statistical Aspects of Relationship Between Radioprotective Action of Mercaptoethylamine Derivatives and Analogs and Their Electron Parameters (V.K. Mukhomorov; RADIOBIOLOGIYA, No 3, May-Jun 85).....	63
Abstracts of Articles on Radiation Biology Deposited With VINITI (RADIOBIOLOGIYA, No 3, May-Jun 85).....	69
Free Thymidine Levels in Serum of Irradiated Rats With Cellular Depletion of Thymus and Spleen (L.Ye. Bryksina, A.V. Konov, et al.; RADIOBIOLOGIYA, No 5, Sep-Oct 85).....	71
Induction of Resistance Mutations to 6-Thioguanine in Chinese Hamster Tissue Culture Cells by Fast Neutrons (T.V. Yelisova, T.P. Feoktistova; RADIOBIOLOGIYA, No 5, Sep-Oct 85).....	72
Effects of Irradiation on Regulatory Function of B Lymphocytes (I.M. Dozmorov, G.V. Lutsenko, et al.; RADIOBIOLOGIYA, No 5, Sep-Oct 85).....	72
Effects of Radiation and Radioprotectors on Hemopoietic Stem Cells (N.F. Barakina, O.N. Rakhmanina; RADIOBIOLOGIYA, No 5, Sep-Oct 85).....	73
Post-Radiation Recovery of Hemopoiesis in Mice Treated With Cell-Free Tissue Components of Central Asian Tortoise (A.A. Turdyyev, R.B. Usmanov, et al.; RADIOBIOLOGIYA, No 5, Sep-Oct 85).....	73
Therapeutic Mechanism of Action of Exogenous DNA in Radiation Injury (A.M. Kuzin, V.A. Kopylov, et al.; RADIOBIOLOGIYA, No 5, Sep-Oct 85).....	74

Effects of Gamma-Irradiation on Mitochondrial Monoamine Oxidase Activity and Serotonin Level in Rat Brain (I.V. Savitskiy, V.V. Tsybulskiy, et al.; RADIOBIOLOGIYA, No 5, Sep-Oct 85).....	74
Effects of Heparin on Diminishing Radioprotective Efficacy of Cystamine Related to Decreasing Intensity of Irradiation (N.A. Zhukova, S.A. Filippova, et al.; RADIOBIOLOGIYA, No 5, Sep-Oct 85).....	75
Radioprotective Effects of Kontrikal in Mice (O.M. Atamanova, K.S. Cherkov; RADIOBIOLOGIYA, No 5, Sep-Oct 85).....	76
Shigella Antigens in Early Pathogenetic Therapy of Experimental Acute Radiation Sickness (Ye.S. Gorbunova, Ye.A. Tyurin, et al.; RADIOBIOLOGIYA, No 5, Sep-Oct 85).....	76
Persistent DNA Damage and Viability of Mammalian Cells (V.Ya. Gotlib, N.Ya. Taponaynen, et al.; RADIOBIOLOGIYA, No 4, Jul-Aug 85).....	77
Dynamics of Energy Balance, Detoxication and Biosynthesis of Hepatocytic Macromolecules in Acute Radiation Injury (V.L. Sharygin, M.A. Avakyan, et al.; RADIOBIOLOGIYA, No 4, Jul-Aug 85).....	77
Genetic Monitoring of X-Ray Irradiated Drosophila Populations Treated With Melanin: Population Dynamics and Density (I.B. Mosse, V.K. Savchenko, et al.; RADIOBIOLOGIYA, No 4, Jul-Aug 85).....	78
Formation of Toxic Peptides in Irradiated Rats and Their Binding to Serum Proteins (V.V. Salomatin, G.P. Yefimenko, et al., RADIOBIOLOGIYA, No 4, Jul-Aug 85).....	79
Effects of Local Skin Irradiation on Histomorphometric Dynamics (G.M. Kolchanova, A.N. Liberman, et al.; RADIOBIOLOGIYA, No 4, Jul-Aug 85).....	79
Effects of DNA Repair Inhibitors on Cell Viability in Immediate Two Generations Subsequent to Irradiation (N.Ya. Taponaynen, V.Ya. Gotlib; RADIOBIOLOGIYA, No 4, Jul-Aug 85).....	80
Late Erythron Status in Rats Following Acute Radiation Injury (O.A. Perminova; RADIOBIOLOGIYA, No 4, Jul-Aug 85).....	80

Changes in DNA Levels in Sr-90-Damaged Rat Organs During Onset of Late Sequelae (L.P. Soroka, V.L. Shvedov; RADIobiologiya, No 4, Jul-Aug 85).....	81
Morphometric Studies on Mast Cells in Acute Radiation Injury (A.V. Datsenko, V.V. Shikhodirov; RADIobiologiya, No 4, Jul-Aug 85).....	82
Morphological and Functional Status of Cerebral Blood Vessels After Gamma-Irradiation of Rat Head (A.N. Kordenko, V.P. Fedorov, et al.; RADIobiologiya, No 4, Jul-Aug 85).....	82
Effects of Helium-Neon Laser on Radiosensitivity of Escherichia Coli K-12 (K.Sh. Voskanyan, N.V. Simonyan, et al.; RADIobiologiya, No 4, Jul-Aug 85).....	83

CONFERENCES

Conference on Alcoholism (V. Belitskiy, D. Struzhenstsov; TRUD, 3 Dec 86).....	84
All-Union Conference on Transport ATPases (I.A. Svinukhova, A.A. Boldyrev; BIOKHIMIYA, No 2, Feb 86).....	84
Working Conference: Interhemispheric Relationships and Memory (T.P. Khrizman; FIZIOLOGICHESKIY ZHURNAL SSSR IMENI I.M. SECHENOVA, No 8, Aug 85).....	85
Odessa Meeting of Special Problems Commission of Human Physiology, Scientific Council of USSR Academy of Sciences and USSR Academy of Medical Sciences: Neuropsychological Basis of Normal and Diseased Brain Function (T.N. Reznikova; FIZIOLOGIYA CHELOVEKA, No 6, Nov-Dec 85).....	85

MISCELLANEOUS

Effects of Mineral Deposits on Plant Bioluminescence (V.P. Ilyin, S.M. Kochubey, et al.; DOKLADY AKADEMII NAUK UKRAINSKOY SSR, SERIYA B: GEOLOGICHESKIYE, KHIMICHESKIYE I BIOLOGICHESKIYE NAUKI, No 10, Oct 86).....	87
Bulgarian Investment in Biotechnology (PRILOZHENIYE K "EKONOMICHESKOY GAZETE," No 46, Nov 86).....	88

/13046

JPRS-UBB-87-009

29 APRIL 1987

USSR REPORT
LIFE SCIENCES
BIOMEDICAL AND BEHAVIORAL SCIENCES

CONTENTS

AEROSPACE MEDICINE

Circulatory Changes in Carotid Artery Basin in Response to Antiorthostasis and Antiorthostatic Bed Rest (B. M. Fedorov, Ye. N. Streltsova, et al.; FIZIOLOGIYA CHELOVEKA, No 5, Sep-Oct 85).....	1
Hemodynamic Effects of Negative Pressure in Lower Body (M. M. Mirrakhimov, T. A. Azhimamatov, et al.; FIZIOLOGIYA CHELOVEKA, No 5, Sep-Oct 85).....	2
Interaction of Macula and Semicircular Canals in Angular Stabilization of Man in Space (V. M. Gusev, V. A. Kislyakov; BIOFIZIKA, No 1, Jan-Feb 86).....	2

AGROTECHNOLOGY

New Growth Stimulator: MIVAL (TASS, 23 Dec 86).....	4
Nitrogen Fixation Characteristics and Fractional Composition of Rhizobium Melioti Transconjugant Protein Upon Introduction of pRD1 Plasmid (M. M. Nichik, Ye. D. Krugova, et al.; DOKLADY AKADEMII NAUK UKRAINSKOY SSR, SERIYA B: GEOLOGICHESKIYE, KHMICHESKIYE I BIOLOGICHESKIYE NAUKI, No 11, Nov 86)...	5

BIOCHEMISTRY

Characterization of Peptide Fractions Isolated From Rat Brain Under Ischemia (A. Musatov, M. Gottlieb, et al.; UKRAINSKIY BIOKHIMICHESKIY ZHURNAL, No 6, Nov-Dec 85).....	6
Effect of A ₂ Phospholipases of Bee and Cobra Venoms on Phospholipid Composition and Na ⁺ , K ⁺ -ATPase Activity of Synaptosomes (G.L. Vavilova, O.V. Kirsenko, et al.; UKRAINSKIY BIOKHIMICHESKIY ZHURNAL, No 6, Nov-Dec 85).....	6
Synthetic Ca ⁺⁺ -Dependent Proton Carrier (N.V. Lukyanov, O.A. Rayevskiy, et al.; BIOFIZIKA, No 1, Jan-Feb 86).....	7
Purification of Tick-Borne Encephalitis Virus on Tris-Modified Porous Glasses (I.V. Krasilnikov, L.V. Elbert, et al.; ACTA VIROLOGICA, No 4, Jul 85).....	8
Complementarily-Addressed Modification of DNA in Composition of Metaphase Chromosomes and Interphase Chromatin (N.D. Belyayev, V.V. Vlasov, et al.; DOKLADY AKADEMII NAUK SSSR, No 1, Nov 86).....	8
Mechanism of Antioxidant Action of Ceruloplasmin (A.I. Yaropolov, A.G. Sergeyev, et al.; DOKLADY AKADEMII NAUK SSSR, No 1, Nov 86).....	9

BIOPHYSICS

Conductivity and Structural Transitions in Bilayer Lipid Membranes (T.V. Vyshenskaya, V.I. Pasechnik; BIOFIZIKA, No 1, Jan-Feb 86).....	10
Structure and Conductivity at Contact Site of Two Artificial Lipid-Proteolipid Membranes (M.Z. Gyulkhandanyan, K.G. Manukyan; BIOFIZIKA, No 1, Jan-Feb 86).....	11
Electromechanical and Reactive Diffusion Systems in Intraneuronal Information Processing: Effects of Calcium Influx and Intracellular Calcium Levels on cAMP Action (Ye.A. Liberman, S.V. Minina, et al.; BIOFIZIKA, No 1, Jan-Feb 86).....	11

Effects of Cosmo-Helio-Geophysical Factors on in Vitro Bacterial Agglutination (A.M. Opalinskaya, L.P. Agulova; BIOFIZIKA, No 1, Jan-Feb 86).....	12
Model for Control of Movement of Multiarticular Extremities (M.B. Berkinblit, I.M. Gelfand, et al.; BIOFIZIKA, No 1, Jan-Feb 86).....	13
Direct Detection of Selective Laser Cleavage of DNA (L.Z. Benimetskaya, N.V. Bulychev, et al.; BIOFIZIKA, No 1, Jan-Feb 86).....	13
Parametric Resonance and Amplification of Periodic Perturbations in Membranes Containing Inactivable Ion Channels (N.I. Markevich, Ye.Ye. Selkov; BIOFIZIKA, No 5, Sep-Oct 85).....	14
Cytoskeleton and Mechanoreception Thresholds (V.I. Pasechnik; BIOFIZIKA, No 5, Sep-Oct 85).....	14
Control of Human Locomotion (V.A. Bogdanov; BIOFIZIKA, No 5, Sep-Oct 85).....	15
BIOTECHNOLOGY	
Genetic Engineering in Creation of Vaccines Based on Viral Capsid Proteins (T. I. Tikhonenko; ACTA VIROLOGICA, No 3, May 85).....	16
EPIDEMIOLOGY	
Yersiniosis Outbreak From Contaminated Vegetables (N. Krasun; VOZDUSHNYY TRANSPORT, 28 Oct 86).....	17
Experimental Studies on Reproduction of Karshi Virus (Togaviridae, Flavivirus) in Selected Mosquito and Tick Species (N.V. Khutoretskaya, V.A. Aristova, et al.; ACTA VIROLOGICA, No 3, May 85).....	19
GENETICS	
Atomic Bomb Effect on Genetic Research in USSR (R. Mikhaylov; PRAVDA, 4 Jan 87).....	20

HUMAN FACTORS

- Water Transport Research Institute Modeling Working
Conditions
(SOTSIALISTICHESKAYA INDUSTRIYA, 15 Jan 87)..... 22

IMMUNOLOGY

- Work on Peptide Preparations for Correcting Immune Deficiency
(L. Ivchenko; IZVESTIYA, 2 Jan 87)..... 23

- Effects of Plant tRNA on Interferon Production
(R. Zahorska, M. Korbecki, et al.; ACTA VIROLOGICA,
No 3, May 85)..... 24

- Standardization of ELISA To Detect Antibodies to
Orthopoxviruses
(N.N. Maltseva, S.S. Marennikova, et al.; ACTA
VIROLOGICA, No 4, Jul 85)..... 24

- Histological Changes in Liver and Spleen of Mice Exposed to
Various Antigenic Preparations of Coxiella Burnetii
(I.E. Kokorin, V.I. Pushkareva, et al.; ACTA
VIROLOGICA, No 5, Sep 85)..... 25

- Ultraviolet Absorption Profile of Human Leukocyte
Ultrafiltrates After Affinity Chromatography on Immobilized
Meta-Aminophenylboric Acid: Use of Transfer Factor for
Purification
(J. Borvak, V. Mayer, et al.; ACTA VIROLOGICA, No 2,
Mar 85)..... 26

LASER BIOEFFECTS

- Nature of Morphological Changes in Rabbit Eye Membrane During
Transscleral Laser Coagulation
(S.G. Legeza, V.V. Vit; OFTALMOLOGICHESKIY ZHURNAL,
No 6, 1986)..... 27

- Laser Treatment Without Endoscopes
(TASS, 26 Jan 87)..... 32

MEDICINE

- Safe, Painless Abortion Device
(IZOBRATATEL I RATSIONALIZATOR, No 9, Sep 86)..... 33

- Predicting Myocardial Infarction
(IZOBRATATEL I RATSIONALIZATOR, No 9, Sep 86)..... 34

New Device for Heart Disease Diagnosis (TASS, 19 Dec 86).....	36
Developments for Cryomedicine at Kharkov (Yu. Fedotov; PRAVDA UKRAINY, 7 Jan 87).....	37
MILITARY MEDICINE	
Pathogenesis of Gunshot Wounds and Principles of Their Surgical Treatment (Yu.G. Shaposhnikov, B. Ya. Rudakov; KHIRURGIYA, No 6, 1986).....	38
Surgical Drains Made From Polymer Film (Yu.G. Shaposhnikov; KHIRURGIYA, No 7, 1986).....	48
NON-IONIZING ELECTROMAGNETIC RADIATION	
Effects of Low-Intensity Monochromatic Electromagnetic Millimeter Waves on Biological Processes (M.B. Golant; BIOFIZIKA, No 1, Jan-Feb 86).....	51
Physical Modeling of Acoustic Bioeffects of SHF (R.E. Tigranyan, V.V. Shorokhov; BIOFIZIKA, No 5, Sep-Oct 85).....	51
Reduction of Ferricyanide by SHF Electromagnetic Fields in Human Erythrocyte/Methylene Blue System (V.P. Tsybyshev, V.M. Shtemler, et al.; BIOFIZIKA, No 5, Sep-Oct 85).....	52
PHARMACOLOGY AND TOXICOLOGY	
Effect of Pharmacological Agents for Preventing Motion Sickness on Cardiovascular System (S.L. Ilina, V.V. Sabayev, et al.; FARMAKOLOGIYA I TOKSIKOLOGIYA, No 3, May-Jun 86).....	53
Duration of Narcotic Effect of Nembutal in Hyperbaria (A.Yu. Sledkov, G.V. Troshikhin; FARMAKOLOGIYA I TOKSIKOLOGIYA, No 3, May-Jun 86).....	61
Inhibition of Sindbis Virus Infection in Mice by Norakin (Triperiden) (A. Veckenstedt, J. Guttner, et al.; ACTA VIROLOGICA, No 3, May 85).....	65

PHYSIOLOGY

Change in Mass Transfer of Blood Gases in Hypoxia After Perfluorocarbon Emulsion Infusion (I.N. Kuznetsova, K.A. Gerbut, et al.; FIZIOLOGICHESKIY ZHURNAL SSSR IMENI I.M. SECHENOVA, No 2, Feb 86).....	66
Influence of Noradrenaline on Oxydative Metabolism in Cold-Adapted Golden Hamsters (L.S. Maslennikova; FIZIOLOGICHESKIY ZHURNAL SSSR IMENI I.M. SECHENOVA, No 2, Feb 86).....	67
Influence of Oxygen Insufficiency on Brain Cells in Cultivation and Surviving Sections (I.G. Vlasova, L.D. Lukyanova, et al.; FIZIOLOGICHESKIY ZHURNAL SSSR IMENI I.M. SECHENOVA, No 3, Mar 86).....	68
Blood Circulation and Oxygen Pressure in Brain of Alert Rabbits Subjected to Rocking (N.A. Skoromny, I.T. Demchenko, et al.; FIZIOLOGICHESKIY ZHURNAL SSSR IMENI I.M. SECHENOVA, No 3, Mar 86).....	68
Development of Certain Reactions to Injection of Noradrenlanine in Control and Cold-Adapted Rats (T.V. Kozyureva, I.N. Sindarovskaya, et al.; FIZIOLOGICHESKIY ZHURNAL SSSR IMENI I.M. SECHENOVA, No 3, Mar 86).....	69
Galvanic Skin Response in Estimation of One Minute Time Intervals (O.S. Rayevskaya, T.D. Dzhebraillova, et al.; FIZIOLOGIYA CHELOVEKA, No 5, Sep-Oct 85).....	70
Biophysical Basis for Two-Component Analysis of Pulse Biosignals (I.Ye. Sokolova; FIZIOLOGIYA CHELOVEKA, No 5, Sep-Oct 85).....	70
Neurochemical Foundations for Chemical Thermoregulation and Artificial Hypobiosis (N.N. Timofeyev; FIZIOLOGIYA CHELOVEKA, No 5, Sep-Oct 85).....	71
Prediction of Physical Work Fitness in Hot Environment (O.S. Goretskiy, V.A. Maksimovich, et al.; FIZIOLOGIYA CHELOVEKA, No 5, Sep-Oct 85).....	72

Visual Figure Perception With Similar-Figure Masking (V.M. Krol, V.D. Sosina; FIZIOLOGIYA CHELOVEKA, No 5, Sep-Oct 85).....	72
NADH-Vanadate-Oxidoreductase During Emotional-Pain Stress and Its Implication in Regulation of Na^+, K^+-ATP-ase Activity (V.S. Yakushev, O.B. Makoyed, et al.; UKRAINSKIY BIOKHIMICHESKIY ZHURNAL, No 6, Nov-Dec 85).....	73
Neuronal Organization of Inhibitory Processes in Rat Somatosensory Cortex Columns (A.G. Sukhov, T.K. Lapenko; FIZIOLOGICHESKIY ZHURNAL, No 5, Sep-Oct 85).....	73
Leukocytic Acid Phosphatase Activity in Experimental Wound Healing (R.U. Lipshits, T.V. Zvyagintseva; FIZIOLOGICHESKIY ZHURNAL, No 5, Sep-Oct 85).....	74
Blocking Ca-Dependent K-Conductivity-Possible General Link in Mechanism of Action of Antimalarial Preparations (D.A. Sakharov, T.L. Dyakonova; DOKLADY AKADEMII NAUK SSSR, No 1, Nov 86).....	75
PUBLIC HEALTH	
Measures To Improve Mobile Medical Equipment (L. Novikov; MEDITSINSKAYA GAZETA, 9 Jan 87).....	76
Expanding Computer Training at Medical Colleges (A. Krasnov, I. Korolyuk; MEDITSINSKAYA GAZETA, 19 Dec 86).....	77
'Zdorovye' Public Health Survey: Lack of Progress in Buzuluk (G. Sazonov; PRAVDA, 14 Dec 86).....	78
'Zdorovye' Public Health Survey: Old and New Problems in Vologda Oblast (L. Slavolyubova; PRAVDA, 12 Dec 86).....	78
'Zdorovye' Public Health Survey: Improvements in Bashkiria (V. Prokushhev; PRAVDA, 13 Dec 86).....	79
RADIATION BIOLOGY	
V. Korogodin and Research on Radiation Damage to Living Organisms (LENINSKOYE ZNAMYA, 21 Dec 86).....	80

MISCELLANEOUS

Regional Research Center of Medical Academy Opening in Tomsk (SOTSIALISTICHESKAYA INDUSTRIYA, 24 Jan 87).....	82
Soviet-Hungarian Firm Created for Medical Equipment Manufacture (A. Bakhtina; VECHERNYAYA MOSKVA, 25 Dec 86).....	83

/9835

JPRS-UBB-87-010

13 MAY 1987

USSR REPORT
LIFE SCIENCES
BIOMEDICAL AND BEHAVIORAL SCIENCES

CONTENTS

AEROSPACE MEDICINE

- Changes in Hemostasis System of Animals Under Conditions of
Granulocytopoiesis Inhibition Under Effect of Decreased
Barometric Pressure
(N.V. Lunina, A.F. Poltavskiy; FIZIOLOGICHESKIY ZHURNAL,
No 6, Nov-Dec 85)..... 1
- Cytomorphology and Ultrastructure of Corn Root Meristem in
Weightlessness
(M.G. Tairbekov, V.G. Grif, et al.; IZVESTIYA AKADEMII
NAUK SSSR: SERIYA BIOLOGICHESKAYA, No 5, Sep-Oct 86).... 2

AGROTECHNOLOGY

- Activation of Proteinkinase C in Plant Cells Due To Action of
Gibberillic Acid: Enzyme Translocation From Cytoplasm Into
Membranes
(E.P. Ladyzhenskaya, N.P. Korableva, et al.; DOKLADY
AKADEMII NAUK SSSR, No 3, Jan 87)..... 3
- Cytokinine Regulation of Proteinkinase Bound To Chromatin and
RNA-Polymerase I From Barley Leaves
(S.Yu. Selivankina, Ye.G. Romanko, et al.; DOKLADY
AKADEMII NAUK SSSR, No 3, Jan 87)..... 4
- Heterokaryosis in Entomophagous Fungus *Verticillium lecanii*
(D.I. Kotlyarevskiy, V.A. Pavlyushin; MIKOLOGIYA I
FITOPATOLOGIYA, No 5, Sep-Oct 86)..... 4

Mycelial Fungi as Single Cell Protein Source on Lignocellulose Substrate (V.G. Babitskaya; MIKOLOGIYA I FITOPATOLOGIYA, No 5, Sep-Oct 86).....	5
Changes in Respiratory Intensity of Gamma-Irradiated Seeds on Storage (Z.N. Bychkova, V.S. Khlebnyy; RADIobiOLOGIYA, No 6, Nov-Dec 85).....	5
Effects of Autumnal Climatic Conditions on Winter Hardiness of Winter Wheat Grown From Irradiated Seeds (N.F. Batygin, A.K. Tatyanko; RADIobiOLOGIYA, No 6, Nov-Dec 85).....	6
BIOCHEMISTRY	
Effect of Tetanic Toxin on Capture of ^{45}Ca by Synaptosomes (I.G. Rebrov; PATOLOGICHESKAYA FIZIOLOGIYA I EKSPERIMENTALNAYA TERAPIYA, No 1, Jan-Feb 85).....	7
Reversible Binding of Spin-Labeled Inhibitors to Active Site of Butyrylcholinesterase (BChE) (K.Ye. Dorokhov, G.L. Grigoryan; BIOFIZIKA, No 5, Sep-Oct 86).....	9
Conformation of N-Terminal Tridecapeptide of Beta-Endorphin (N.A. Akhmedov, Ye.V. Suleymanova, et al.; BIOFIZIKA, No 4, Jul-Aug 86).....	10
Effects of Phase State of Lipids on Interaction With Cobra Cytotoxin (T.F. Aripov, I.A. Rozenshteyn, et al.; BIOFIZIKA, No 4, Jul-Aug 86).....	10
Poly(Glycerophosphate) Teichoic Acid of Streptomyces Levoris K-3053: Selective Biological Effects (Ye.S. Vylegzhannina, N.F. Dmitriyeva, et al.; ANTIBIOTIKI I MEDITINSKAYA BIOTEKHNOLOGIYA, No 8, Aug 86).....	10
Protective Effects of Neuropeptide Homocarnosine in Hyperbaric Oxygenation (A.A. Krichevskaya, T.I. Bondarenko, et al.; VOPROSY MEDITINSKOY KHIMII, No 4, Jul-Aug 85).....	11
Effects of Nutrition on Metabolism and Mechanism of Action of Aflatoxin B ₁ in Rat Liver (P.S. Nikov, M.S. Parzyan; VOPROSY MEDITINSKOY KHIMII, No 4, Jul-Aug 85).....	12

BIOPHYSICS

Effect of Extracellular pH on Elementary Characteristics of Chloride Channels in Cholinergic Membrane (T.T. Ivanova, V.I. Ilyin, et al.; DOKLADY AKADEMII NAUK SSSR, No 3, Nov 86).....	13
Intracellular Location of Exogenous Photosensitizer-Chlorin e ₆ (A.A. Frolov, Yu.M. Arkatov, et al.; DOKLADY AKADEMII NAUK SSSR. No 3, Nov 86).....	14
Membrane Fluidity as Factor Modulating Anti-Gradient Transport of Sodium Ions From Cell (S.N. Ayrapetyan, T. Takenaka, et al.; DOKLADY AKADEMII NAUK SSSR, No 2, Nov 86).....	14
Vortex Rings in Three-Dimensional Active Media With Two-Component Diffusion (A.V. Panfilov, A.N. Rudenko, et al.; BIOFIZIKA, No 5, Sep-Oct 86).....	15
Boundary Effects in Interaction of Rotating Spiral Waves (Ye.A. Yermakova, A.M. Pertsov; BIOFIZIKA, No 5, Sep-Oct 86).....	16
Models of Spatially Ordered Structures in Colonies of Motile Bacteria (Ye.O. Budrene, A.A. Polezhayev, et al.; BIOFIZIKA, No 5, Sep-Oct 86).....	16
Cation-Anion Selectivity of Staphylococcal Toxin Channels in Lipid Bilayers (O.V. Krasilnikov, V.I. Ternovskiy, et al.; BIOFIZIKA, No 4, Jul-Aug 86).....	17
Experimental Assessment of Critical Reverberator Size in Myocardium (A.M. Pertsov, A.B. Medvinsky; BIOFIZIKA, No 4, Jul-Aug 86).....	17
Evaluation of UHF Effects by Means of Spherical Models (V.V. Shorokhov, R.E. Tigranyan, et al.; BIOFIZIKA, No 4, Jul-Aug 86).....	18
Overall Behavior of Interacting Catalytic Macromolecules (Autogens) in Coacervates (V.G. Redko; BIOFIZIKA, No 4, Jul-Aug 86).....	18
Biological Microdevices With Enzyme Amplification (M.M. Rakhimov; BIOFIZIKA, No 4, Jul-Aug 86).....	19

Surface-Enhanced Raman Spectroscopy of Biopolymers: Membrane Proteins, Bacteriorhodopsin and Rhodopsin Adsorbed on Silver Electrodes and Silver Hydrosols (I.R. Nabiyev, R.G. Yefremov, et al.; BIOFIZIKA, No 4, Jul-Aug 86).....	19
Inhibition of Na^+, K^+-ATPase Activity by Sodium Channel Blockers (L.V. Reznik, Ye.M. Myazina; VOPROSY MEDITSINSKOY KHIMII, No 4, Jul-Aug 85).....	20

BIOTECHNOLOGY

Comparative Study of Growth and Enzymatic Activity of Free and Immobilized Curvularia Lunata BKM F-644 Mycelium (B.A. Angelova, G.V. Sukhodolskaya, et al.; IZVESTIYA AKADEMII NAUK SSSR: SERIYA BIOLOGICHESKAYA, No 5, Sep-Oct 86).....	21
--	----

ENVIRONMENT

Use of Radionuclide-Polluted Waters for Fish Breeding (V.A. Shevchenko, V.L. Pechkurenkov, et al.; VOPROSY IKHTIOLOGII, No 3, May-Jun 86).....	22
--	----

EPIDEMIOLOGY

Primary-Multiple Breast Cancer (Ye.I. Bektereva, E.G. Tselikhman, et al.; VOPROSY ONKOLOGII, No 7, Jul 86).....	23
---	----

Cancer Incidence of Female External Genitalia Based on Materials From Kazakh SSR Oncological Institute (B.Ye. Abdurakhimov, N.A. Krivets, et al.; VOPROSY ONKOLOGII, No 7, Jul 86).....	23
---	----

Cancer Mortality in Large Soviet City (I.V. Polyakov, N.G. Petrova; VOPROSY ONKOLOGII, No 8, Aug 86).....	24
---	----

Comparative Assessment of Cancer Morbidity in Selected Areas of USSR and Finland (V.M. Merabishvili, T. Khakulinen, et al.; VOPROSY ONKOLOGII, No 6, Jun 86).....	25
---	----

GENETICS

Role of Epidermal Growth Factor (EGF) and Insulin in Repair Control of Gamma-Induced Single-Strand DNA Breaks (V.N. Bildin, R.S. Barkan, et al.: DOKLADY AKADEMII NAUK SSSR, No 1, Jan 87).....	26
---	----

Molecular Organization of Complete C-Onc Gene Coding for Human Cellular Tumor Antigen p53 (V.L. Bukhman, N.N. Ninkina, et al.; DOKLADY AKADEMII NAUK SSSR, No 1, Jan 87).....	27
--	-----------

LASER BIOEFFECTS

Photochemical Activity of Glutathione on Irradiation With IR Laser (B.G. Yavishev, Ya.Sh. Kishmariya, et al.; BIOFIZIKA, No 5, Sep-Oct 86).....	28
Argon Laser Coagulation of Retina in Optic Nerve Neuritis (A.A. Bochkareva, Ye.A. Nesterov, et al.; OFTALMOLOGICHESKIY ZHURNAL, No 4, 1986).....	28
Photo- and Laser Coagulation Treatment of Optic Nerve Disk Fovea and Its Complication (I.N. Ganichenko; OFTALMOLOGICHESKIY ZHURNAL No 4, 1986)..	29
Results of Laser Treatment Following Closed Vitrectomy in Patients With Proliferative Diabetic Retinopathy (Ya.I. Glinichuk, L.A. Deyev, et al.; OFTALMOLOGICHESKIY ZHURNAL, No 4, 1986).....	30
Optimization of Parameters of Experimental Krypton Laser Radiation on Fundus Oculi Tissues (L.A. Linnik, S.K. Dmitriyev, et al.; OFTALMOLOGICHESKIY ZHURNAL, No 4, 1986).....	31

MEDICINE

Surgical Treatment of Lung Cancer in Older Patients (M.L. Shulutko, I.Ya. Motus; VOPROSY ONKOLOGII, No 7, Jul 86).....	32
Clinical Trials of Antineoplastic Agents (M.R. Lichinitser; VOPROSY ONKOLOGII, No 8, Aug 86).....	33
Hemosorption as Deblocking Immunotherapy (B.T. Bilynskiym, R.N. Tsolko, et al.; VOPROSY ONKOLOGII, No 6, Jun 86).....	33

MICROBIOLOGY

Antifungal Activities of Selected Organoboron Compounds (A.N. Lukashik, A.A. Malama, et al.; MIKOLOGIYA I FITOPATOLOGIYA, No 5, Sep-Oct 86).....	35
---	-----------

Mycotic Flora of Aedes Mosquitoes in Tomsk Region of Ob River Banks

- (T.G. Frants, O.A. Mertvetsova, et al.; MIKOLOGIYA I FITOPATOLOGIYA, No 1, Jan-Feb 86)..... 36

Degradation of Kelthane in Soil by P. Aeruginosa Strain BS827, Containing Plasmid pBS3

- (L.A. Golovleva, R.N. Pertsova, et al.; IZVESTIYA AKADEMII NAUK SSSR: SERIYA BIOLOGICHESKAYA, No 5, Sep-Oct 86).... 36

MOLECULAR BIOLOGY

Cloning and Sequencing of Two Human Leukocyte Interferon Genes

- (V.I. Savelyev, M.L. Zlochevskiy, et al.; ANTIBIOTIKI I MEDITSINSKAYA BIOTEKHNOLOGIYA, No 8, Aug 86)..... 38

NON-IONIZING ELECTROMAGNETIC RADIATION

Circulation Half-Life and Medullary Production of Erythrocytes During Effect of High-Intensity Constant Magnetic Field

- (S.A. Grebennikov, A.D. Pavlov; PATOLOGICHESKAYA FIZIOLOGIYA I EKSPERIMENTALNAYA TERAPIYA, No 1, Jan-Feb 85)..... 39

Reversible Effects of Time-Modulated Magnetic Field on Mollusk Neurons

- (V.I. Danilov, V.V. Parshintsev, et al.; BIOFIZIKA, No 5, Sep-Oct 86)..... 40

Effects of EHF Oscillations on Animal Blood System in Relation to Preirradiation Status and Site of Irradiation

- (N.P. Didenko, V.M. Perelmuter, et al.; BIOFIZIKA, No 5, Sep-Oct 86)..... 41

Effects of Nonionizing Microwave Irradiation on Autoimmune Reactions and on Antigenic Pattern of Serum Proteins

- (G.I. Vinogradov, G.V. Batanov, et al.; RADIOBIOLOGIYA, No 6, Nov-Dec 85)..... 41

Endocrine Effects of Intermittent Shortwave Electromagnetic Field Emissions

- (N.A. Minkina, G.N. Kuzminskaya, et al.; RADIOBIOLOGIYA, No 6, Nov-Dec 85)..... 42

PHARMACOLOGY AND TOXICOLOGY

Localization of Biologically Active Peptides and Their Analogs in Protein Structures--Protective Reaction Participants

- (O.Yu. Yankovskiy, T.Ye. Dovnar; VESTNIK LENINGRADSKOGO UNIVERSITETA: BIOLOGIYA, No 1, Feb 86).... 43

**Mathematical Methods of Experiment Design for the Estimation of
the Protective Properties of Antimicrobial Drugs**
(S.I. Dyakov, Ye.V. Churnosov, et al.; ANTIBIOTIKI I
MEDITSINSKAYA BIOTEKHNOLOGIYA, No 9, Sep 86)..... 51

**Derivatives of Methyleneidiphosphonic Acid as Tumorotropic
Agents. Quantitative Aspects**
(M.V. Korsakov, A.V. Moskvin, et al.; IZVESTIYA AKADEMII
NAUK SSSR: SERIYA BIOLOGICHESKAYA, No 5, Sep-Oct 86).... 61

PHYSIOLOGY

**Dynamics of Conditioned-Reflex Regulation of Functional State
of Local Zone of Cerebral Cortex, Tested by Method of
Biological Feedback**
(N.S. Kositsyn, V.B. Dorokhov; DOKLADY AKADEMII NAUK
SSSR, No 3, Nov 86)..... 62

**Effect of Elaboration of Classical Defensive Conditioned Reflex
on Chemically Induced Species-Specific Behavior**
(I.Ya. Podolskiy, I.M. Santalova; DOKLADY AKADEMII NAUK
SSSR, No 3, Nov 86)..... 63

Role of Silicon in Resistance of Rice to Piriculariosis
(N.Ye. Aleshin, E.R. Avakyan, et al.; DOKLADY AKADEMII
NAUK SSSR, No 2, Nov 86)..... 64

**Combined Effect of Hyperbaric Pressure and Low Temperatures on
Blood Cell**
(I.I. Gitelzon, R.A. Pavlenko, et al.; DOKLADY AKADEMII
NAUK SSSR, No 2, Nov 86)..... 65

**Differences in Binding of Opiates With Left and Right Turtle
Optic Cortex**
(A.G. Kobylyanskiy, A.S. Pivorarov, et al.; DOKLADY
AKADEMII NAUK SSSR, No 2, Nov 86)..... 65

**Effect of Hepatectomy on Adenylatecyclase System of Different
Age Rat Liver**
(O.K. Kulchitskiy; VOPROSY MEDITSINSKOY KHIMII, No 1,
Jan-Feb 87)..... 66

Peptide Bioregulator From k-Casein
(Ye.Ya. Stan, A.P. Yekimovskiy; VOPROSY MEDITSINSKOY
KHIMII, No 1, Jan-Feb 87)..... 67

**Mechanical Resistance of Erythrocytes And Oxygen Mass Transfer
Under Hypoxic States of Different Genesis**
(A.A. Nenashev, I.M. Tishchenko, et al.; FIZIOLOGICHESKIY
ZHURNAL, No 6, Nov-Dec 85)..... 67

Effect of Ship's Habitation Environment on Conditioned-Reflex Activity of Experimental Animals During a Long Voyage (O.Yu. Netudykhatka, A.P. Stoyanov, et al.; FIZIOLOGICHESKIY ZHURNAL, No 6, Nov-Dec 85).....	68
Diaphoretic Reflex in Complex of Methods of Assessing Operator Efficiency (P.P. Slynko, L.I. Bukvareva, et al.; FIZIOLOGICHESKIY ZHURNAL, No 6, Nov-Dec 85).....	69
Influence of β-Endorphin on Learning Processes and Memory (T.N. Riga, V.M. Getsova, et al.; IZVESTIYA AKADEMII NAUK SSSR: SERIYA BIOLOGICHESKAYA, No 5, Sep-Oct 86)....	69
Effect of Allotransplantation of Embryonic Nervous Tissue Transplanted Into Brains of Intact and Hypoxic Rats on Permeability of Blood-Brain Barrier to Blood Globulins (I.N. Saburina, I.L. Konorova, et al.; DOKLADY AKADEMII NAUK SSSR, No 1, Jan 87).....	70

PUBLIC HEALTH

Criteria for Heart Transplants in USSR (V. Shumakov; TRUD, 4 Jan 87).....	71
Evaluation of Effectiveness of Prophylactic Examinations in Detection of Early Forms of Breast Cancer (E.V. Merkulov, V.N. Golod, et al.; VOPROSY ONKOLOGII, No 7, Jul 86).....	74
Possibilities for Breast Cancer Prevention (E.K. Khint; VOPROSY ONKOLOGII, No 7, Jul 86).....	74
Evaluation Stage of Breast Self-Examination Training Program (E.A. Mikhaylov, V.N. Sagaydak, et al.; VOPROSY ONKOLOGII, No 7, Jul 86).....	75

RADIATION BIOLOGY

. Action of Helium-Neon Laser on Intact and X-Ray Irradiated Mouse Spleen (N.S. Samokhvalova; DOKLADY AKADEMII NAUK SSSR, No 3, Jan 87).....	76
Structural Factors in Radiation Damage of Human Hemoglobin (A.Ye. Myshkin, V.A. Sharpatyy; BIOFIZIKA, No 4, Jul-Aug 86).....	77

Correlation Between DNA Repair and Frequency of Cells With Micronuclei in Gamma-Irradiated PHA-Stimulated and Unstimulated Human Peripheral Lymphocytes (L.V. Shchedrina, S.N. Kolyubayeva, et al.; RADIobiologiya, No 6, Nov-Dec 85).....	77
Radioprotective Mechanism of Action of Catecholamine Receptor Agonists: Implication of Beta-Adrenoreceptor Subtypes (V.I. Kulinskiy, A.D. Klimova, et al.; RADIobiologiya, No 6, Nov-Dec 85).....	78
Mechanism of Circulatory Disturbances in High-Dose Irradiation (T.D. Pozharisskaya, T.P. Vasilyeva, et al.; RADIobiologiya, No 6, Nov-Dec 85).....	79
Intraspecies Polymorphism of Hexaploid Wheat Seed Radioresistance (N.A. Korneyev, B.I. Sarapultsev, et al.; RADIobiologiya, No 6, Nov-Dec 85).....	79
Effects of Long-Term Tritium Intake on NK Cell Function in CBA Mice (Ye.N. Kirillova; RADIobiologiya, No 6, Nov-Dec 85).....	80
Heat and Radiation Induced (Cross) Radio- and Thermotolerance in Zea May Seedlings (T.I. Gikoshvili, M.E. Vagabova, et al.; RADIobiologiya, No 6, Nov-Dec 85).....	81
Bronchoscopic Examination of Tracheal and Bronchial Mucosa in Combined and Individual Exposure to ^{239}Pu and Gamma Radiation (L.I. Fetisova, Z.I. Kalmykova, et al.; RADIobiologiya, No 6, Nov-Dec 85).....	81
Wheat Retention and Distribution in Its Organ of Fallout Radionuclides (N.D. Zuyev, N.V. Korneyeva; RADIobiologiya, No 6, Nov-Dec 85).....	82
Therapeutic and Radioprotective Effects of Potassium Orotate in Irradiated Rats (L.N. Zhemkova, G.S. Novoselova, et al.; RADIobiologiya, No 2, Mar-Apr 85).....	83
Radioprotective Effects of Ethylene in Gamma-Irradiated Plants (D.M. Grodzinskiy, Ye.Yu. Fialkova, et al.; RADIobiologiya, No 2, Mar-Apr 85).....	83

Ultrastructural Changes in Cerebrocortical Capillaries in Rats Following Whole-Body Neutron Irradiation (A.A. Abdurakhmanov, V.F. Mashanskiy, et al.; RADIOBIOLOGIYA, No 2, Mar-Apr 85).....	84
Degradation of DNA and Chromatin in Mouse Lymphoid Organs After Irradiation and Phytohemagglutinin (PHA) Administration (N.N. Kuvshinov, G.A. Dokshina, et al.; RADIOBIOLOGIYA, No 2, Mar-Apr 85).....	84
Radioprotective Mechanism of Action of Cysteamine (N.Ya. Gilyano, O.V. Malinovskiy, et al.; RADIOBIOLOGIYA, No 2, Mar-Apr 85).....	85
Effects of Gamma and Gamma/Neutron Irradiation on Blood Antiproteolytic Activity and Free Amino Acid Pool Composition in Relation to Survival Rates (S.F. Vershinina, L.A. Konnova, et al.; RADIOBIOLOGIYA, No 2, Mar-Apr 85).....	86
Effects of Lethal Gamma Irradiation on Activities of Fructosodiphosphate Aldolase and Glucose-6-Phosphate Dehydrogenase (I.V. Savitskiy, V.A. Musiyko, et al.; RADIOBIOLOGIYA, No 2, Mar-Apr 85).....	86
Effects of Gamma and Neutron Irradiation on Mammalian DNA- Membrane Complexes (I.L. Lapidus, V.M. Nazarov, et al.; RADIOBIOLOGIYA, No 2, Mar-Apr 85).....	87
Effects of Irradiation on Serum Fibronectin Levels (S.R. Budagov, A.V. Konov, et al.; RADIOBIOLOGIYA, No 2, Mar-Apr 85).....	88
VETERINARY MEDICINE	
Phagocytic Reaction of Guinea Pig Macrophages From Animals Immunized Against Brucellosis (N.Z. Khazipov, N.M. Vasilevskiy, et al.; VETERINARIYA, No 12, Dec 85).....	89
Viral Equine Encephalitis (Literature Review) (I.A. Bakulov, V.V. Makarov, et al.; VETERINARIYA, No 12, Dec 85).....	90

CONFERENCES

- Brief
Cardiology Conference in Tbilisi 91

MISCELLANEOUS

- Hands-On Healing Phenomenon
(Ye. Davitashvili; SOVETSKAYA ROSSIYA, 13 Aug 86)..... 92
- Cost of Animal Tests for Carcinogenecity of Chemical Compounds
(G.B. Pliss, N.N. Antashkova, et al.; VOPROSY ONKOLOGII,
No 7, Jul 86)..... 94
- Review of Book on Protection of Machinery From Biodegradation
(N.P. Yelinov; MIKOLOGIYA I FITOPATOLOGIYA, No 1,
Jan-Feb 86)..... 94

/9835

JPRS-UBB-87-011

28 MAY 1987

USSR REPORT
LIFE SCIENCES
BIOMEDICAL AND BEHAVIORAL SCIENCES

CONTENTS

AGROTECHNOLOGY

Hybrid Vigor in Self-Pollinating Crops (L.V. Khotyleva, A.P. Savchenko, et al.; DOKLADY AKADEMII NAUK BSSR, No 11, Nov 86)	1
1,2-S,S'-Ethylene-Substituted Bis(isothioureas With Growth Inhibiting Properties (A.M. Reynbold, G.V. Morar, et al.; IZVESTIYA AKADEMII NAUK MOLDAVSKOY SSR: SERIYA BIOLOGICHESKIH I KHMICHESKIH NAUK, No 4, Jul-Aug 86)	1
Factors Promoting Efficiency of Viral Insecticidal Preparations (V.I. Mayorov, A.V. Shcherbinin, et al.; IZVESTIYA AKADEMII NAUK TADZHISKOY SSR, No 2, Apr-Jun 86)	2

BIOCHEMISTRY

Effect of Vitamins A and E on Structural and Functional State of Retina Lysosomes (N.F. Leus, I.P. Metelitsyna; UKRAINSKIY BIOKHMICHESKIY ZHURNAL, No 1, Jan-Feb 87)	3
Study of Albumin Immobilization of Synthetic Activized Charcoal (S.V. Mikhalovskiy, T.A. Alekseyeva, et al.; UKRAINSKIY BIOKHMICHESKIY ZHURNAL, No 1, Jan-Feb 87)	3

Steroidal Compounds of Sea Sponges. Part 7. Synthesis of Sulfates of Sokotrasterol and Halistanol and Structure- Activity Relationship of These Compounds (T.N. Makaryeva, I.A. Gorshkova, et al.; KHIMIYA PRIRODNYKH SOYEDINENIY, No 4, Jul-Aug 86)	4
Channel-Formation by Latrotoxin in Liposomes (I.O. Trikash, V.K. Lishko, et al.; UKRAINSKIY BIOKHIMICHESKIY ZHURNAL, No 6, Nov-Dec 86)	5
Passive Ca ²⁺ Transport in Vesiculated Preparations of Myocardial Sarcolemma (S.N. Marchenko, Z.D. Vorobets, et al.; UKRAINSKIY BIOKHIMICHESKIY ZHURNAL, No 6, Nov-Dec 86)	5
BIOPHYSICS	
Cells Open Secrets (M. Suleymanyanyan, V. Arvanov; KOMMUNIST, 26 Jul 86)	6
Location of Retinal Aldimine of Rhodopsin Relative to Photoreceptor Disk Surface (N.G. Abdulayev, I.R. Nabiyev, et al.; BIOLOGICHESKIYE MEMBRANY, No 1, Jan 86)	6
System for Recording Currents of Single Ion Channels of Biological Membranes (V.G. Zurmukhtashvili, P.D. Brezhestovskiy; BIOLOGICHESKIYE MEMBRANY, No 1, Jan 86)	7
Photocatalyzed Oxidation of Water. Part 1. Reduction of Acceptors in Aqueous Solutions Without Adding Donor Electrons (B.S. Marinov, A.B. Zhaynazarov, et al.; MOLEKULYARNAYA BIOLOGIYA, No 1, Jan-Feb 86)	7
BIOTECHNOLOGY	
Cell Engineering Synthesis of Hybrids With Nicotiana Tabacum Nucleus and Atropa Belladonna Plastid (S.G. Kushnir, L.R. Shlumukov, et al.; DOKLADY AKADEMII NAUK SSSR, No 5, Dec 84)	9
Biocatalytic Preparation of Hydrocarbons, Their Derivatives and Monomers (A.M. Yegorov, I.G. Gazaryan; ANTIBIOTIKI I MEDITSINSKAYA BIOTEKHNOLOGIYA, No 2, Feb 86)	9

Commercial Biocatalytic Reactors for Immobilized Enzyme Processes	
(E.N. Tearo, E.G. Uus, et al.; ANTIBIOTIKI I MEDITSINSKAYA BIOTEKHNOLOGIYA, No 2, Feb 86)	10
Immobilization of Enzymes in Fibers and Films	
(A.D. Virnik, S.B. Krasovskaya, et al.; ANTIBIOTIKI I MEDITSINSKAYA BIOTEKHNOLOGIYA, No 2, Feb 86)	11
Bioluminescence Analysis in Medicine and Biotechnology	
(N.N. Ugarova, L.Yu. Brovko, et al.; ANTIBIOTIKI I MEDITSINSKAYA BIOTEKHNOLOGIYA, No 2, Feb 86)	11
Cloning and Expression of Phage T6 DNA Ligase Gene	
(A.A. Zimin, P.A. Krylov, et al.; BIOTEKHNOLOGIYA, No 4, Jul-Aug 86)	12
Formulation of Nutrient Medium for Entomophthora Thaxteriana Patch	
(G.A. Kochkina, M.M. Skvortsova, et al.; BIOTEKHNOLOGIYA, No 4, Jul-Aug 86)	12
Effects of Processing on Lipid Composition in Candida Biomass Grown on n-Paraffins	
(M.G. Bezrukov, A.P. Kovalev, et al.; BIOTEKHNOLOGIYA, No 4, Jul-Aug 86)	13
Immobilization and Applications of Luciferase	
(N.N. Ugarova, O.V. Lebedeva; BIOTEKHNOLOGIYA, No 4, Jul-Aug 86)	14
Biotechnical Progress in Hungary	
(O. Rumyantsev; SOVETSKAYA ROSSIYA, 3 Sep 86)	14
Order for a Stock	
(G. Muromtsev; PRAVDA, 11 Nov 86)	15
Protein Feed From Hydrogen Bacteria--Current Status of Production	
(V. Mikhaylov; EKONOMICHESKAYA GAZETA, No 50, Dec 86)	15

GENETICS

Enzymatic Scalpel and Needle for Genetic Surgery	
(R. Martsishauskas; SOVETSKAYA LITVA, 20 Aug 86)	16

HUMAN FACTORS

- Prevention of Overall and Visual Fatigue
(A.A. Israyelyan; PROMYSHLENNOST ARMENII,
No 8, Aug 86) 17

IMMUNOLOGY

- Mathematical Modeling of Reaction of Plague Capsular
Antigen With Antibodies of Different Affinities
(M.I. Levi; ANTIBIOTIKI I MEDITSINSKAYA
BIOTEKHNOLOGIYA, No 3, Mar 86) 18
- Reagents Available for Endocrinological Examinations
(M. Dzhindzhikhashvili; ZARYA VOSTOKA,
14 Sep 86) 19

LASER BIOEFFECTS

- Molecular Mechanisms of Action of Therapeutic Low-
Intensity Lasers
(T.Y. Karu; DOKLADY AKADEMII NAUK SSSR, No 5,
Dec 86) 20
- Physical-Chemical Principles for Creation of New Generations
of Synthetic Immunogens and Vaccines
(V.A. Kabanov; VESTNIK AKADEMII NAUK SSSR, No 1,
Jan 87) 21
- Laser Treatment of Eye Diseases
(V. Akopyan; VECHERNAYA MOSKVA, 10 Nov 86) 21

MEDICINE

- Brain Tissue Surgery
(B. Petkevicha; NAUKA I TEKHNIKA, No 17, Dec 86) 22
- Gnotobacterial Chamber for Wound Isolation
(V. Yashin; LENINSKOYE ZNAMYA, 2 Oct 86) 22
- Medical Textile Materials With Radiocontrast Properties
(L.G. Vlasov, K.F. Paraskevova, et al.; KHIRURGIYA,
No 6, Jun 86) 23
- Injection Treatment for Myopia
(I. Petrov; VECHERNAYA MOSKVA, 24 Dec 86) 23
- Needle-Free Injector
(G.A. Derbentseva; RATIONALIZATORSKIYE PREDLOZHENIYA
I IZOBRAZHENIA, No 2, 1986) 24

Treatment of Granulating Burns With Epsilon-Aminocaproic Acid (A.P. Levitskiy, V.I. Zheleznyy, et al.; VESTNIK KHIRURGII IMENI I.I. GREKOVA, No 10, Oct 86)	24
MICROBIOLOGY	
Adhesion of Aspergillus Niger Conidia to Polymeric Surfaces (I.V. Kaznacheyev, K.Z. Gumargaliyeva, et al.; DOKLADY AKADEMII NAUK SSSR, No 5, Dec 86)	26
Apparatus for Microorganism Cultivation With Recycled Air Supply (V.A. Fedotov; RATSIONALIZATORSKIYE PREDLOZHENIYA I ZOBRETENIYA, No 2, 1986)	26
MILITARY MEDICINE	
Gunshot Wounds of Large Blood Vessels (V.A. Babosha, Yu.B. Zhukov, et al.; KLINICHESKAYA KHIRURGIYA, No 10, Oct 86)	28
MOLECULAR BIOLOGY	
Plasmid Vector for Gene Expression Containing Temperature-Regulated Promoter for Phage Lambda P' R DNA (V.V. Kravchenko, L.A. Petrenko; DOKLADY AKADEMII NAUK SSSR, No 5, Dec 86)	29
Comparative Study on Potexvirus Genomes: Primary Structure Homology of Capsid Proteins of Potato Mosaic Aukubavirus and Potato X Virus (V.S. Bundin, O.A. Vishnyakova, et al.; DOKLADY AKADEMII NAUK SSSR, No 3, Sep 86)	29
Relative Efficiencies of Several Escherichia Coli and Phage Lambda Promoters (S.V. Mashko, R.L. Gorovits, et al.; DOKLADY AKADEMII NAUK SSSR, No 6, Dec 86)	30
Preparation of DNA Probe Which Reveals DNA Sequences Which Are Amplified in Colchicine Resistant Cells (A.V. Gudkov, O.B. Chernova, et al.; MOLEKULYARNAYA BIOLOGIYA, No 1, Jan-Feb 86)	31
Restrictase Analysis of DNA of Phage SM Pseudomonas Aeruginosa (A.M. Kulba, A.S. Gorelyshev, et al.; MOLEKULYARNAYA BIOLOGIYA, No 1, Jan-Feb 86)	31
Replication in Yeasts of Plasmid pE194 From Staphylococcus Aureus (A.L. Polumiyenko, S.P. Grigoryeva, MOLEKULYARNAYA BIOLOGIYA, No 1, Jan-Feb 86)	32

Cloning Transgenic Mouse DNA Fragment Containing Integrated Recombinant Plasmid (V.Z. Tarantul, V.V. Kucheryavy, et al.; MOLEKULYARNAYA BIOLOGIYA, No 1, Jan-Feb 86)	32
NON-IRRADIATING ELECTROMAGNETIC RADIATION	
Effects of UHF Fields on Gabaergic and Cholinergic Neurotransmitters (I.G. Akoyev, M.V. Karanova, et al.; RADIOBIOLOGIYA, No 3, May-Jun 85)	34
Effects of Electromagnetic Field on V. Harveyi Bioluminescence (G.B. Bochkova, S.V. Yermolin, et al.; RADIOBIOLOGIYA, No 3, May-Jun 85)	34
PHARMACOLOGY AND TOXICOLOGY	
Influence of Central Cholinolytics on Opioid Neuropeptide Contents in Animal Brain (L.A. Gromov, V.A. Zhila; UKRAINSKIY BIORHIMICHESKIY ZHURNAL, No 6, Nov-Dec 86)	36
Therapeutic Immobilized-Enzyme Preparations With Enhanced Target Affinity (V.P. Torchilin, A.V. Maksimenko, et al.; ANTIBIOTIKI I MEDITSINSKAYA BIOTEKHNOLOGIYA, No 2, Feb 86)	40
Qualitative and Quantitative Spectrophotometric Determination of Cholinolytics and Anticholinesterase Drugs Based on Reaction With Dinitrobindone (B.P. Zorya, V.V. Petrenko, et al.; FARMATSEVTICHNYY ZHURNAL, No 3, May-Jun 85)	41
Spectrophotometric Analysis of Unithiol (B.A. Chakchir, V.V. Trokhimchuk; FARMATSEVTICHNYY ZHURNAL, No 3, May-Jun 85)	41
Pharmacokinetic Research in USSR (O. Frantsen; PRAVDA, 22 Dec 87)	42
PHYSIOLOGY	
Fiftieth Anniversary of GSSR Institute of Physiology (ZARYA VOSTOKA, 3 Oct 87)	43
Effect of High Spatial Frequencies on Visual Recognition Processes (Ye.D. Borisova, O.P. Tairov; FIZIOLOGICHESKIY ZHURNAL SSSR IMENI I.M. SECHENOVA, No 9, Sep 85)	43

Neurochemical Mechanisms of Artificial Hypobiosis and of Chemical Thermoregulation (N.N. Timofeyev, G.A. Konstantinov; FIZIOLOGICHESKIY ZHURNAL SSSR IMENI I.M. SECHENOVA, No 9, Sep 85)	44
Postsynaptic Effects of Cholinesterase Inhibitors in Sympathetic Ganglia of Frog (V.Yu. Bolshakov, N.Ya. Lukomskaya, et al.; DOKLADY AKADEMII NAUK SSSR, No 5, Dec 86)	45
Effects of Extreme Stress Factors on Intensity of Cerebral and Hepatic Autolysis in Rats (L.V. Mogilnitskaya, I.V. Shepotinovskaya; BIOLOGICHESKIYE NAUKI, No 10, Oct 86)	45
Effects of Phospholipase on Electroexcitable Ca Currents in Neural Membranes (N.K. Chemeris, V.I. Ilyin, et al.; DOKLADY AKADEMII NAUK SSSR, Sep 86)	46
PUBLIC HEALTH	
Resources for Pharmaceutical Industry (L.P. Telegin; MEDITSINSKAYA GAZETA, 12 Dec 86)	47
New Development in Remuneration of Physicians (G.M. Yakimovich; AGITATOR, No 1, Jan 87)	52
Poor Selection of Medical Students and Poor Physician Graduates (Yu. Shteyngardt; IZVESTIYA, 20 Jan 87)	52
Medical Cadres and Salaries (L. Ivchenko; IZVESTIYA, 22 Oct 86)	53
Emergency Medical Service--Skoraya Pomoshch (VECHERNAYA MOSKVA, 15 Jul 86)	53
Health Care for Rural Workers (S. Bakhramov; SELSKOYE KHOZYAYSTVO UZBEKISTANA, No 2, Feb 86)	54
Hospital Reception Service Poor (N. Dubina; SOVETSKAYA MOLDAVIYA, 18 Oct 86)	54
Ambulance Service (B. Yakovlev; VECHERNAYA MOSKVA, 12 Aug 86)	55
Primary Causes of Pediatric Mortality (14 Year and Younger) in Tajikistan (Ya.T. Tadzhiev, Z.I. Malikova, et al.; ZDRAVOOKHRANENIYE TADZHIKISTANA, No 5, 1986)	55

Computer Diagnostic Centers in Georgian SSR (Mikhail Dzhindzhikhashvili; ZARYA VOSTOKA, 18 Dec 86)	56
Defective Hearing Aids (L. Zagalskiy; IZVESTIYA, 13 Jan 87)	56
Testing of New Hearing Apparatus Delayed (N. Boyarkina; KOMSOMOLSKAYA PRAVDA, 30 Dec 86)	57
Stress on Preventive Medicine (A. Gatalov; VECHERNYAYA MOSKVA, 26 Jan 87)	57
Problems With Ambulance Service (Eduard Andzelevich; NEDELYA, No 49, 1-7 Dec 86)	58
Eye Microsurgery Centers With Automated Patient Conveyance Lires (Yu. Bychkov; PRAVDA, 15 Jan 87)	58
Improvement Needed in USSR Mass Health Screening (A. Moskvichev; SOVETSKAYA ROSSIYA, 9 Jan 87)	59
Utilization of Drug Resources at Cardiological Clinics (V.M. Tolochko, M.A. Alyushina; FARMATSEVTYCHNYY ZHURNAL, No 6, Nov-Dec 85)	59
Medical Incompetence in Georgian SSR (Ketevan Amiredzhibi; ZARYA VOSTOKA, 23 Dec 86)	60
Plans for Further Improvements in Pharmacy Services (V.G. Varchenko; FARMATSEVTYCHNYY ZHURNAL, No 3, May-Jun 85)	60
Using Computers in Kiev Oblast Pharmacy Network (Ye.F. Pakrysh; FARMATSEVTYCHNYY ZHURNAL, No 3, May-Jun 85)	61
Health More Valuable Than Wealth (A. Chernyak; PRAVDA, 15 Sep 85)	61
RADIATION BIOLOGY	
New Medical Center in Kiev (N. Pastushenko; RABOCHAYA GAZETA, 2 Oct 86)	62
Cyclic Nucleotide Levels in Proliferating Rat Hepatocytes After Irradiation and Serotonin Treatment (L.I. Aslamova, Ya.B. Blyum, et al.; RADIOBIOLOGIYA, No 3, May-Jun 85)	62

Effects of High-Dose Gamma/Neutron Irradiation on Neuronal Ultrastructural Dynamics in Rat Sensomotor Cortex (A.A. Abdrikhanov, A.L. Kachurin, et al.; RADIOBIOLOGIYA, No 3, May-Jun 85)	63
Effects of Cystamine on Degradation of Leukocyte Chromatin of Rats Irradiated With Ionizing or Combined Ionizing + Heat Radiations (N.A. Pechenina, N.I. Ryabchenko, et al.; RADIOBIOLOGIYA, No 3, May-Jun 85)	64
Effects of Long-Term Irradiation on Qualitative and Quantitative Changes in Blood Lymphocytes in Rats (V.V. Ivanov, V.N. Streltsova; RADIOBIOLOGIYA, No 3, May-Jun 85)	64
Cytogenetic Effects of Gamma Quanta and of Secondary Emission Generated by 70 GeV Protons on Chinese Hamster Fibroblasts (A.Kh. Akhmadiyeva, G.F. Aptikayeva, et al.; RADIOBIOLOGIYA, No 3, May-Jun 85)	65
DNA Damage and Repair in Chinese Hamster Fibroblasts After Irradiation With Gamma Quanta and Secondary Emission Generated by 70 GeV Protons (A.Kh. Akhmadiyeva, S.I. Zaichkina, et al.; RADIOBIOLOGIYA, No 3, May-Jun 85)	66
Early Changes in Levels of GABA and Glutamate and Aminotransferase Activities in Rat Brain Following Whole-Body Lethal Gamma Irradiation (V.A. Rozanov, G.A. Karpovich; RADIOBIOLOGIYA, No 3, May-Jun 85)	66
Effects of Synthetic Polyribonucleotides on Immune and Colony-Forming Activity of Irradiated Bone Marrow Cells (V.G. Vladimirov, B.P. Lukashin, et al.; RADIOBIOLOGIYA, No 3, May-Jun 85)	67
Prophylactic Use of 2-Amino-2-Thiazoline (2-AT) in Protection of Hemopoietic System in Irradiated Animals (M.I. Yanushevskaya, O.N. Rakhmanina, et al.; RADIOBIOLOGIYA, No 3, May Jun 85)	68
Radiobiology: Possibilities and Potentials (D. Kaushanskiy; SOVETSKAYA MOLDAVIYA, 11 Sep 86)	68
CONFERENCES	
Alcoholism and Genetic Science (I.P. Anokhina, V.D. Moskalenko; VESTNIK AKADEMII NAUK SSSR, No 1, Jan 87)	69

MISCELLANEOUS

Criticism of Academy of Medical Sciences
(V. Burakovskiy; PRAVDA, 5 Nov 86) 70

Important Thing Is To Begin
(V. Gerasimov, P. Dunai, et al.; PRAVDA, 19 Jan 87) 70

/13046

JPRS-UBB-87-012

29 MAY 1987

USSR REPORT
LIFE SCIENCES
BIOMEDICAL AND BEHAVIORAL SCIENCES

CONTENTS

AGROTECHNOLOGY

Induction of Superlarvae of <i>Galleria Mellonella</i> by Action of Juvenoids and Ecdysoids for Primary Evaluation of Their Biological Activity (A. Kuuzik, L. Metspalu, et al.; IZVESTIYA AKADEMII NAUK ESTONSKOY SSR: BIOLOGIYA, No 3, Jul-Sep 86)	1
Effect of Phytotoxin <i>Chaetomium Aureum</i> 8583 on Plant Cells (I.Ya. Zakharova, Ye.V. Nadkernichnaya, et al.; MIKROBIOLOGICHESKIY ZHURNAL, No 4, Jul-Aug 85)	2
Prevention by Fungal Melanins of Photodynamic Spore Damage (A.A. Averyanov, V.P. Lapikova, et al.; IZVESTIYA AKADEMII NAUK SSSR: SERIYA BIOLOGICHESKAYA, No 4, Jul-Aug 86)	2
Overwintering Conditions of Pathogen of Rice Piriculariosis in Primorskiy Kray (V.G. Anikeyev, Ya.P. Bunko, et al.; IZVESTIYA TIMIRIAZEVSKOY SELSKOKHOZYAYSTVENNOY AKADEMII, No 3, May-Jun 85)	3
Induction of Germination of Resting Spores of Entomophthora <i>Traxteriana</i> Patch (S.M. Ozerskaya, M.M. Skvortsova, et al.; MIKOLOGIYA I FITOPATOLOGIYA, No 3, May-Jun 86)	4

Metabolic Correlates of Stem Rust Virulence in Susceptible Wheat Plants: Role of Ethylene and Abscisic Acid (T.Ye. Zhigalkina, V.V. Chigrin; MIKOLOGIYA I FITOPATOLOGIYA, No 3, May-Jun 86)	4
BIOCHEMISTRY	
Bacteriolytic Enzymes of Lysoamidase Preparation Isolate From Bacteria of Pseudomonadaceae Family (O.A. Stepnaya, A.I. Severin, et al.; BIOKHIMIYA, No 7, Jul 86)	6
Isolation of ω -Gliadines Using Thiopropyl-Sepharose Chromatography (T.I. Odintsova, Ts.A. Yegorov, et al.; BIOKHIMIYA, No 7, Jul 86)	6
Stability of Glucose-6-Phosphatedehydrogenase and Horseradish Peroxidase in Enzyme-Surfactant-Water-Heptane Systems Simulating Lipid-Protein Membrane Ensembles (A.N. Yeremin, D.I. Metelitsa; BIOKHIMIYA, No 10, Oct 86)	7
Steady State Kinetics of Conjugated Cyclic Reaction Chains (V.I. Zvalinskiy, F.F. Litvin; BIOKHIMIYA, No 10, Oct 86)	8
Study of Immunologic Identity of Lysozymes of Varying Origins V.M. Podboronov, V.A. Tsvetkov; ANTIBIOTIKI I MEDITINSKAYA BIOTEKHNOLOGIYA, No 8, Aug 85)	8
Purification of DNA-Dependent RNA-Polymerase of Plague Microbe and Some of Its Properties (I.I. Kurennaya, B.N. Mishanki, et al.; MIKROBIOLOGICHESKIY ZHURNAL, No 3, May-Jun 85)	9
Influenza Virus Neuraminidase Inhibitor Isolated From Staphylococcus Aureus (L.D. Varbanets, I.Ya. Zakharova, et al.; MIKROBIOLOGICHESKIY ZHURNAL, No 3, May-Jun 85)	9
Quantitative Determination of Determinant Groups in Specific Polysaccharide From Yersinia Pseudotuberculosis (Serovar I B) (T.F. Solovyeva, G.M. Frolova, et al.; MIKROBIOLOGICHESKIY ZHURNAL, No 4, Jul-Aug 85)	10
Galtamycin Antibiotic: Fermentation, Isolation, Physical-Chemical and Biological Properties (T.P. Korobkova, E.M. Singal, et al.; ANTIBIOTIKI I MEDITINSKAYA BIOTEKHNOLOGIYA, No 6, Jun 86)	11

Galtamycin Antibiotic. Structure of Galtamycinone (N.V. Murenets, M.K. Kudinova, et al.; ANTIBIOTIKI I MEDITSINSKAYA BIOTEKHNOLOGIYA, No 6, Jun 86)	11
Interaction of cAMP-Dependent Protein Kinase Subunits and Structural Components of Nucleus (A.I. Glukhov, M.V. Nesterova, et al.; BIOKHIMIYA, No 1, Jan 86)	12
pH-Dependent Bioluminescence Spectra and Kinetic Constants of Luciferase of Luciola Mingrelica Fireflies (Ye.I. Dementeva, L.Yu. Brovko, et al.; BIOKHIMIYA, No 1, Jan 86)	12
Apurinic-Apyrimidinic DNA-Endonuclease Activity of Cytochrome c and Pancreatic RNAase (O.K. Kaboyev, L.A. Luchkina, et al.; BIOKHIMIYA, No 1, Jan 86)	13
Altering Permeability of Blood-Brain Barrier to Hydroxythiamine (Yu.M. Ostrovskiy, T.I. Zimatkina, et al.; VOPROSY MEDITSINSKOY KHIMII, No 5, Sep-Oct 85)	13
¹³ C-NMR and PMR-Spectroscopic Study of 7-Aminocoumarins (M.A. Kirpichenok, I.I. Grandberg, et al.; IZVESTIYA TIMIRYAZEVSKOY SELSKOKHOZYAYSTVENNOY AKADEMII, No 3, May-Jun 85)	14

BIOPHYSICS

Absence of Channels in Receptor Membrane of Rods (T.I. Rebrik, G.R. Kalamkarov, et al.; BIOFIZIKA, No 6, Nov-Dec 86)	15
Gamma-Resonance Spectroscopic Study on Binding of Iron Ions by Ommochrome of Invertebrate Eyes (R.M. Bagirov, R.A. Stukan, et al.; BIOFIZIKA, No 6, Nov-Dec 86)	15
Metabolic Transformation of Ferromagnetic Suspensions in Animals (A.I. Tsapin, S.D. Dvukhsherstnov, et al.; BIOFIZIKA, No 6, Nov-Dec 86)	16
Surface Enhanced Raman Spectroscopy of Biopolymers: Water Soluble Proteins, Amino Acids and Dipeptides Adsorbed on Silver Electrodes and Silver Hydrosols (I.R. Nabiiev, G.D. Chumanov; BIOFIZIKA, No 2, Mar-Apr 86)	17

Simplest Open Enzymic Processes With Possible Damping Oscillations and Resonance (N.P. Kaymachnikov; BIOFIZIKA, No 2, Mar-Apr 86)	17
Permeability of Bilayer Lipid Membrane at Phase Transition. Significance of Intermolecular Calcium Bridge (V.F. Antonov, E.T. Kozhomkulov, et al.; BIOFIZIKA, No 2, Mar-Apr 86)	18
Microcalorimetric Study of Oncogene EJ and Protooncogene EC in Composition of Plasmid pBR 322 (E.L. Andronikashvili, D.R. Monaselidze, et al.; BIOFIZIKA, No 2, Mar-Apr 86)	19
Role of Electrochemical and Reaction-Diffusional System Intraneuron Information Processing in Brain Function (Ye.A. Liberman, S.V. Minina, et al.; BIOFIZIKA, No 2, Mar-Apr 86)	19
Phototrophic Properties of Heterotrophic Microorganisms in Medium Containing Purple Membranes (N.N. Vsevolodov, S.M. Gaynullina, et al.; BIOFIZIKA, No 3, May-Jun 86)	20
Hole-Burning Spectroscopy of Reaction Centers of Photosynthetic Bacteria Rhodopseudomonas Sphaeroides R-26 (A.O. Ganago, A.N. Melkozernov, et al.; BIOFIZIKA, No 3, May-Jun 86)	20
Gamma Resonance Spectroscopy of Bonding of Iron Ions by Melanoprotein Granules of Ophthalmic Pigment Epithelium (R.M. Bagirov, R.A. Stukan, et al.; BIOFIZIKA, No 3, May-Jun 86)	21
Electrical Properties of Horny Layer of Human Epidermis and Water Transport Within It (R.F. Musin, V.A. Morozov, et al.; BIOFIZIKA, No 3, May-Jun 86)	22
One Possible Mode of Burst Activity in Hodgkin-Huxley Model (Yu.S. Chertkov; BIOFIZIKA, No 3, May-Jun 86)	22

BIOTECHNOLOGY

Influence of Cotransformation on growth rate of Yeast and Expression of β -Lactamase Gene of Escherichia Coli (V.S. Kirillova, L.I. Likhacheva, et al.; MIKROBIOLOGICHESKIY ZHURNAL, No 2, Mar-Apr 85)	23
Vladipore Polymer Membranes for Microfiltration of Drug Solutions. Vladipore MFA-A Microfilters for Aqueous Solutions (L.A. Moiseyenko, S.A. Zhukovskaya, et al.; ANTIBIOTIKI I MEDITSINSKAYA BIOTEKHNOLOGIYA, No 7, Jul 86)	24

Isolation and Properties of Human Leukocytic Interferon Obtained by Microbial Synthesis (S.V. Kostrov, L.S. Izotova, et al.; ANTIBIOTIKI I MEDITSINSKAYA BIOTEKHNOLOGIYA, No 1, Jan 86)	24
Monoclonal Antibodies to Japanese Encephalitis Virus in Ascitic Hybridoma Preparations (P.G. Deryabin, N.V. Loginova, et al.; ANTIBIOTIKI I MEDITSINSKAYA BIOTEKHNOLOGIYA, No 1, Jan 86)	25
Comparative Radioligand Analysis of Genetically Engineered and Hypophysial Human Somatotropic Hormone (G.A. Popkova, Ye.I. Kandyba, et al.; ANTIBIOTIKI I MEDITSINSKAYA BIOTEKHNOLOGIYA, No 11, Nov 86)	26
Improving Technology of Separation and Concentration in Production of Microbial Synthesis Products (Ya.Ya. Shkop, N.V. Fomchenko, et al.; BIOTEKHNOLOGIYA, No 5, Sep-Oct 86)	27
Low-Inertia Semisubmerged Microbiocalorimeter (Ye.F. Andreyev, M.A. Kazaryan; BIOTEKHNOLOGIYA, No 5, Sep-Oct 86)	27
Evaluation of Protein Products of Yeast Biomass (M.G. Bezrukov, M.L. Ioffe, et al.; BIOTEKHNOLOGIYA, No 5, Sep-Oct 86)	28
Biological Value of Protein Isolates From Microbial Synthesis (M.L. Ioffe, M.G. Bezrukov; BIOTEKHNOLOGIYA, No 5, Sep-Oct 86)	29
Influence of Hydrodynamic Structure of Flows on Processes in Bubbler Reactor (A.A. Arzamastsev; BIOTEKHNOLOGIYA, No 5, Sep-Oct 86)	29
Energy Consumption in Production of Fodder Protein by Microbiological Industry (V.S. Selifontova, A.A. Sokolov; BIOTEKHNOLOGIYA, No 5, Sep-Oct 86)	30
ENVIRONMENT	
Sr-90 and Cs-137 in Peat Deposits of Low-Lying Moor in Vicinity of Beloyarsk Nuclear Power Station (M.G. Nifontova, V.I. Makovskiy, et al.; EKOLOGIYA, No 3, May-Jun 86)	31

EPIDEMIOLOGY

- Pseudomonas Oryzicola--Pathogen of Rice Bacteriosis
in Ukraine
(I.B. Koroleva, R.I. Gvozdyak, et al.;
MIKROBIOLOGICHESKIY ZHURNAL, No 3, May-Jun 85) 32

- Thyroid Cancer in Carpathian Ukraine
(M.P. Pavlovskiy, R.D. Makar; VRACHEBNOYE DELO,
No 12, Dec 86) 32

GENETICS

- Study of Amplification of Kanamycin Resistance Determinant
(Kan^r) in Composition of Constructed Hybrid Plasmids of
Streptomyces Lividans
(L.I. Starodubtseva, A.S. Taisova, et al.;
ANTIBIOTIKI I MEDITSINSKAYA BIOTEKHNOLOGIYA, No 8,
Aug 85) 34

- Some Specifics of the Process of Transformation of
Agrobacterium Tumefaciens by Plasmid DNA
(S.Ye. Rymar, T.V. Stefanishina; MIKROBIOLOGICHESKIY
ZHURNAL, No 4, Jul-Aug 85) 35

- Role of Conjugative Transfer of R-Plasmids in Competitive
Interactions of Plasmid-Containing and Plasmid-Free
Strains of *Escherichia Coli* Under Continuous Cultivation
Conditions
(A.M. Boronin, A.Ye. Filonov, et al.; ANTIBIOTIKI I
MEDITSINSKAYA BIOTEKHNOLOGIYA, No 1, Jan 85) 35

IMMUNOLOGY

- AIDS and Immunology Research in USSR
(Anna Nikolayeva; MOSCOW NEWS, No 3,
25 Jan-1 Feb 87) 37

- Protective Properties of Pseudomonas Aeruginosa Anatoxin
(N.F. Dzyuban, L.G. Podgornaya; MIKROBIOLOGICHESKIY
ZHURNAL, No 2, Mar-Apr 85) 40

- Influence of Combined Application of Rifampicin and Low
Molecular Weight Natural Origin Immunomodulator on
Primary Immune Response to Tularemia Vaccine Strain
Antigens
(A.V. Nikitin, L.P. Ivanitskaya, et al.; ANTIBIOTIKI
I MEDITSINSKAYA BIOTEKHNOLOGIYA, No 10, Oct 85) 40

- Effect of Botulism Toxin on Immune Response
(I.N. Morgunov, G.B. Afonina, et al.;
MIKROBIOLOGICHESKIY ZHURNAL, No 4, Jul-Aug 85) 41

Natural Interferon Inductors: Double-Helical RNA Saccharomyces Cerevisiae Killer Plasmids (A.V. Duzhak, A.N. Kostomakha, et al.; ANTIBIOTIKI I MEDITSINSKAYA BIOTEKHNOLOGIYA, No 1, Jan 85)	42
Effect of Combined Use of Dextran Sulfate and Double-Stranded RNA on Interferon Production (N.N. Amitina, E.B. Tazulakhova, et al.; ANTIBIOTIKI I MEDITSINSKAYA BIOTEKHNOLOGIYA, No 1, Jan 85)	43
Influence of Polysaccharides Isolated From Marine Invertebrates on Some Functions of T- and B-Lymphocytes (T.S. Zaporozhets, R.G. Ovodova, et al.; ANTIBIOTIKI I MEDITSINSKAYA BIOTEKHNOLOGIYA, No 1, Jan 85)	43
Comparative Estimation of Influence of Immunostimulants on Activity of Certain Mouse Thymus Dehydrogenases (K.G. Gapochko, L.P. Sviridov, et al.; ANTIBIOTIKI I MEDITSINSKAYA BIOTEKHNOLOGIYA, No 8, Aug 85)	44
Influence of Mytilan, a Polysaccharide From Crenomytilus Grayanus, on Local Suppurative Process (N.F. Krylova, R.G. Ovodova, et al.; ANTIBIOTIKI I MEDITSINSKAYA BIOTEKHNOLOGIYA, No 8, Aug 85)	45

MARINE MAMMALS

Features of Porpoise Auditory Cortex Organization (Ye.I. Krasnoshchekova, I.I. Figurina; VESTNIK LENINGRADSKOGO UNIVERSITETA: BIOLOGIYA, No 3, Aug 86)	46
---	----

MEDICINE

Increasing Activity of Protective Factors in Patients With Purulent Surgical Infection by Application of Interferon Preparations (V.A. Karlov, S.M. Belotskiy, et al.; ANTIBIOTIKI I MEDITSINSKAYA BIOTEKHNOLOGIYA, No 10, Oct 85)	47
Clinical Trials With Prazosin in Treatment of Hypertension (N.L. Mirzayev, B.N. Salikhov, et al.; MEDITSINSKIY ZHURNAL UZBEKİSTANA, No 12, Dec 86)	48

MICROBIOLOGY

Influence of Cultivation Conditions on Synthesis of Brucellacin (I.S. Tyumentseva, Ye.N. Afanasev, et al.; ANTIBIOTIKI I MEDITSINSKAYA BIOTEKHNOLOGIYA, No 10, Oct 85)	49
---	----

Exocellular O-Antigenic Polysaccharide of Alcaligenes Faecalis (G.M. Zdorovenko, S.I. Skripnik; MIKROBIOLOGICHESKIY ZHURNAL, No 3, May-Jun 85)	49
Microorganisms as Factor in Corrosion of Type 45G17YuZ Steel Exposed to Sea Water (Ye.I. Andreyuk, S.B. Yanover, et al.; MIKROBIOLOGICHESKIY ZHURNAL, No 3, May-June 85)	50
Corrosion of Steel in Soil Under Influence of Sulfur Cycle Bacteria (N.S. Antonovskaya, A.I. Pilyashenko-Novokhatnyy, et al.; MIKROBIOLOGICHESKIY ZHURNAL, No 3, May-Jun 85)	51
Survival of Certain Melanin-Containing Hyphomycetes at Liquid Helium Temperature (A.I. Vasilevskaya, A.L. Antonenko, et al.; MIKROBIOLOGICHESKIY ZHURNAL, No 3, May-Jun 85)	51
Methodologic Approaches for Accelerated Determination of Antibiotic Sensitivity of Gas Gangrene Pathogens (T.I. Sergeyeva, Ye.P. Zemlyanitskaya, et al.; ANTIBIOTIKI I MEDITSINSKAYA BIOTEKHNOLOGIYA, No 7, Jul 86)	52
Globisporine Group Streptomycte Plasmids (L.V. Polishchuk, T.D. Dekhtyarenko, et al.; MIKROBIOLOGICHESKIY ZHURNAL, No 4, Jul-Aug 85)	53
Microflora of XB-5153 Antifouling Coating Used Under Marine Conditions (Ye.I. Andreyuk, Zh.P. Kopteva, et al.; MIKROBIOLOGICHESKIY ZHURNAL, No 4, Jul-Aug 85)	54
Influence of Corroding Steel on Population and Biological Activity of Sulfur Cycle Bacteria in Soil (N.S. Antonovskaya, A.I. Pilyashenko-Novokhatnyy, et al.; MIKROBIOLOGICHESKIY ZHURNAL, No 4, Jul-Aug 85)	54
Influence of Bacteria on Corrosion Resistance of Nonferrous Metal Alloys Used in Shipbuilding (Ye.I. Andreyuk, S.B. Yanover, et al.; MIKROBIOLOGICHESKIY ZHURNAL, No 2, Mar-Apr 85)	55
Toxin-Forming Capacity of Natural Aspergillus Fumigatus Isolates (Z.A. Kurbatskaya, A.A. Trostanetskiy; MIKROBIOLOGICHESKIY ZHURNAL, No 2, Mar-Apr 85)	55
Formation of Microbe Film on Surface of Certain Nonferrous Metal Alloys in Sea Water (Ye.I. Andreyuk, S.B. Yanover, et al.; MIKROBIOLOGICHESKIY ZHURNAL, No 1, Jan-Feb 85)	56

Corrosion of Low-Carbon Steel in Culture of Desulfovibrio Desulfuricans (N.S. Antonovskaya, I.A. Kozlova, et al.; MIKROBIOLOGICHESKIY ZHURNAL, No 1, Jan-Feb 85)	57
Possibility of Using Indirect Hemagglutination Reaction To Determine Sensitivity of Malleus (Glanders) and Melioidosis Bacteria to Antibiotics (L.N. Ferster, V.A. Zharkova, et al.; ANTIBIOTIKI I MEDITINSKAYA BIOTEKHNOLOGIYA, No 6, Jun 86)	57
Microbial Biocenosis and Its Modification in Active Oil Fields (M.V. Ivanov, S.S. Belyayev, et al.; IZVESTIYA AKADEMII NAUK SSSR: SERIYA BIOLOGICHESKAYA, No 4, Jul-Aug 86)	58
Pathogenic Effects of Plague Bacillus in Flea (<i>Xenopsylla Cheopis</i>): Time-Related Ultrastructural Changes in Pathogen Within Vector Organism (N.P. Konnov, T.A. Demchenko, et al.; PARAZITOLOGIYA, No 1, Jan-Feb 86)	59
Growth of Submerged Cultures of Basidiomycetes <i>Panus Tigrinus</i> and <i>Daedaleopsis Confragosa</i> (A.N. Kapich, I.V. Stakheyev, et al.; MIKOLOGIYA I FITOPATOLOGIYA, No 3, May-Jun 86)	59
Optimization of Nutrient Medium for Production of Extracellular Heteropolysaccharide by <i>Cryptococcus Elinovii</i> (V.A. Petrovskiy, M.E. Meller, et al.; MIKOLOGIYA I FITOPATOLOGIYA, No 3, May-Jun 86)	60
Effect of Electromagnetic Radiation in Decimeter Range Wavelength on Calcium Current of Snail Neurons (S.I. Alekseyev, V.I. Ilyin, et al.; BIOFIZIKA, No 2, Mar-Apr 86)	60

PHARMACOLOGY AND TOXICOLOGY

Antimicrobial Properties of Polyacetylene Antibiotic Phenylheptatriyne (A.S. Bondarenko, G.T. Petrenko, et al.; MIKROBIOLOGICHESKIY ZHURNAL, No 2, Mar-Apr 85)	61
New Aminoglycoside Antibiotic Produced by Mutant Strain Str. Cremeus Subsp. <i>Tobramycin</i> 535 (N.V. Konstantinova, M.F. Lavrova, et al.; ANTIBIOTIKI I MEDITINSKAYA BIOTEKHNOLOGIYA, No 10, Oct 85)	62
Toxicity and Antimicrobial Properties of New Aminoglycoside Antibiotic 535 (L.Ye. Goldberg, S.T. Filippovsants, et al.; ANTIBIOTIKI I MEDITINSKAYA BIOTEKHNOLOGIYA, No 10, Oct 85)	62

Antimicrobial Properties of Quinoline Derivatives (G.K. Paliy, Ye.F. Makats; ANTIBIOTIKI I MEDITSINSKAYA BIOTEKHNOLOGIYA, No 10, Oct 85)	63
Influence of Immobilized Terrilytin of Antigen-Specific Immune Suppression (G.A. Chalyy, L.G. Prokopenko, et al.; ANTIBIOTIKI I MEDITSINSKAYA BIOTEKHNOLOGIYA, No 6, Jun 86)	64
Comparative Study of Antimicrobial Activity of Natural and Synthetic Phenylheptatriyne and Its Derivative (A.S. Bondarenko, N.V. Kuznetsov, et al.; MIKROBIOLOGICHESKIY ZHURNAL, No 3, May-Jun 85)	64
Hypnotic and Anticonvulsive Action of 2-Methyl-2- (2-Heptylthio) Ethyl-4-Hydroxymethyl-1,3-Dioxolane (Kh.I. Istatov, A.V. Gulin, et al.; IZVESTIYA AKADEMII NAUK TADZHIKSKOY SSR: OTDELENIYE BIOLOGICHESKIH NAUK, No 1, Jan-Mar 86)	65
Pharmaceutical Problems in Antidote Science (F.P. Trinus; FARMATSEVTYCHNYY ZHURNAL, No 4, Jul-Aug 85)	66
PHYSIOLOGY	
Effect of Antibodies to S-100 Proteins on Electrical Activity and Chemical Sensitivity of Cortical Neurons (N.A. Timofeyev, V.V. Sherstnev, et al.; BIOLOGICHESKIYE NAUKI, No 8, Aug 86)	67
Effects of Immobilization Stress, Heart Infarction and Short- Immobilization Adaptation on Brain Levels of Endogenous Peptides (F.Z. Meyerson, A.D. Dmitriyev, et al.; VOPROSY MEDITSINSKOY KHIMII, No 5, Sep-Oct 85)	68
Hypokinesia, Nutrition and Lipid Metabolism: Effects of Protein and Vitamin Deficiency on Serum Lipids and Lipoproteins in Hypokinesia (S.M. Abdraimova, B.Kh. Koshkenbayev, et al.; VOPROSY MEDITSINSKOY KHIMII, No 5, Sep-Oct 85)	68
Peptidergic Modulation of Sleep: Comparative Studies on DSIP Analogs (V.M. Kovalzon, F. Obal, Jr, et al.; ZHURNAL EVOLYUTSIONNOY BIOKHIMII I FIZIOLOGII, No 5, Sep-Oct 86)	69
Interaction of Leu-Enkephalin and Bradykinin at Neuron Level in Isolated Snail (<i>Helix Pomatia</i>) (G.N. Legostayev; ZHURNAL EVOLYUTSIONNOY BIOKHIMII I FIZIOLOGII, No 5, Sep-Oct 86)	70

Automated Monitoring and Optimization of Routine Efficiency of Control Panel Operators in Industry (A.V. Karpenko; VRACHEBNOYE DELO, No 12, Dec 86)	70
Control System Model for Involuntary Eye Movement (V.M. Gusev, N.F. Podvigin; BIOFIZIKA, No 2, Mar-Apr 86)	71
Brain-Specific Proteins of S100 Group and Neuromediator Reception Processes by Membrane Preparations From Rat Brain (M.A. Gruden, A.B. Poletayev; BIOKHIMIYA, No 10, Oct 86) ..	71
PUBLIC HEALTH	
Trends in Rural Drug Utilization (S.V. Chernyavskiy; FARMATSEVTYCHNYY ZHURNAL, No 3, May-Jun 86)	72
Soviet Eyeglass Services (E. Avetisov; PRAVDA, 13 Jan 87)	78
Material and Technical Provisions for Preparation of Sterile Solutions at Pharmacies (D.V. Dykun; FARMATSEVTYCHNYY ZHURNAL, No 4, Jul-Aug 85)	78
Prevention and Treatment of Hypertension at Health Station of Tractor Plant (M.Kh. Yuldasheva, Ye.S. Stavinskiy; MEDITSINSKIY ZHURNAL UZBEKISTANA, No 12, Dec 86)	79
RADIATION BIOLOGY	
Comparative Evaluation of Methods for Testing Physical Capacity for Work of Irradiated Animals (N.I. Arlashchenko, D.A. Oparina, et al.; IZVESTIYA AKADEMII NAUK SSSR: SERIYA BIOLOGICHESKAYA, No 4, Jul-Aug 86)	80
Chernobyl Experience and Radiological Medicine (S. Tsikora, IZVESTIYA, 16 Sep 86)	80
CONFERENCES	
Leipzig Symposium on Biotechnology: Problems and Prospects for Study of Antiphytoviral Compounds (A.G. Kovalenko; MIKROBIOLOGICHESKIY ZHURNAL, No 4, No 4, Jul-Aug 85)	82

MISCELLANEOUS

Georgian SSR Science Cooperation With West Germany and Hungary
Economic Ties Outlined
(Zaur Kruashvili; ZARYA VOSTOKA, 7 Nov 86) 83

/13046

**END OF
FICHE**

DATE FILMED

19 July 1988